

A photograph of a modern, multi-story glass skyscraper at dusk. The building's interior lights are on, and the sky is a deep blue. The building has a curved facade and large windows. Two orange text boxes are overlaid on the image.

GCD LGD Data Collection Automation

ING's journey from tactical to structural solutions

ING Bank
Marieke Bakker & Hanif Kamis
November 2022



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Introduction

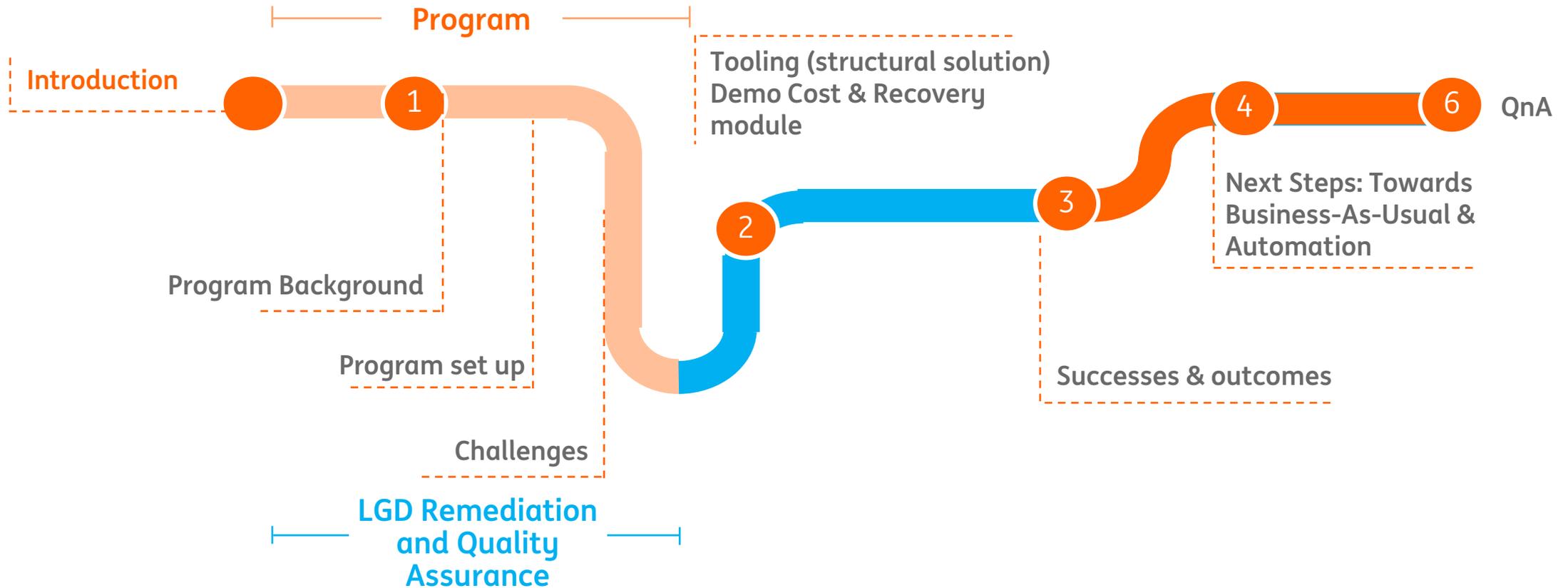


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Program manager Financial Risk



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Product Owner Centre Of Excellence LGD data

Meeting agenda



1 - Background

Global Credit Data (GCD) is a banking association currently covering 52 members banks amongst which many of ING's peers.. The initiative started in 2004, now having collected more than 10 years

of defaults and recoveries from over 50 banks, comprising over 150,000 loans, resulting in the world's largest LGD/EAD database. Since June 2016 ING is so called non-delivering member.

The goal of the GCD project is to improve the usability of credit data for risk modelling by remediating historical credit data and becoming a GCD delivering member for the LGD data pools.

Europe:	Nordic:	Africa:
ABN-AMRO	Danske Bank	ABSA
Barclays	DNB Bank	First Rand Bank
Bnp-paribas	Nordea	Investec Bank
Crédit Agricole CIB	Nordic Investment Bank	Standard Bank of South Africa
Crédit Suisse Securities (Europe)	Nykredit	
HSBC Trinkaus & Berg AG	Skandinaviska Enskilda Banken	
KfW Bankengruppe	Sparebank 1 Gruppen	
Lloyds Banking Group	Svejska Handelsbanken	
Natixis	Swedish	
Nibc Bank		
Rabobank		
Royal Bank Of Scotland		
Societe Generale		
UBS		
Unicredit Bank Austria		
Banco Santander		
Caixa Geral de Depositos		

Asia Pacific:	North America:
ANZ	Bank of America
Bank of East Asia	Capital One
Commonwealth Bank Of Australia	Citibank
National Australia Bank	Comerica
Westpac	Reserains
	J.P. Morgan
	M&T Bank
	National Bank Of Canada
	Northern Trust
	PNC
	Royal Bank of Canada
	Union Bank

Original slide from ING GCD program kick off in 2017

Necessity

- **Clear gap between regulatory expectation and default data status:** In recent Credit Risk model redevelopment and calibration projects, as well as through related ECB onsite inspections, it became clear that the default, loss and recovery data available within ING is not of sufficient substance and quality to pass the test of ECB.
- **No internal model development:** For low default portfolios, there are simply no sufficient internal default, loss and recovery observations to build internal models that meet the EBA guidelines and standards for sound modelling practice.
- **Capital add-ons:** In various occasions ING was forced to apply capital add-ons for model uncertainty (margins of conservatism). Further capital add-ons are expected if no action is taken.

Benefits of GCD

- ING uses the GCD default data framework to improve the internal default data framework.
- The GCD default data framework is seen as the global standard, many of ING's international peers participate
- GCD returns the full databases to members on an anonymized basis (and on a give to get basis).
- ING gains access to an extensive banking network and modelling community in which best practices are shared among participating members.

Benefits of GCD Data Remediation

ING view on GCD and LGD data remediation effort

Original slide from ING GCD program kick off in 2017

Effective participation in the initiative is expected to improve data substantiation in ING for modelling purposes, particularly in LGD and PD modelling reaching more data driven modelling and preventing further capital add ons

Strategic fit

ING Bank holds low-default portfolios (LDP) which can be defined as portfolios where there is low or no occurrence of default events. These LDPs lack sufficient and relevant historical data to be used for meaningful statistical models, particularly for LGD and PD. Participating in the GCD initiative is deemed beneficial in order to reach the vision of ING to have more data driven modelling.



Internal

- Improves internal data collection process/quality by adhering to GCD data collection process.
- Enables validation of already built models (with different data sources) and calibration of final models estimates using historical and larger data sets.
- Management to take decisions based on reliable and complete data, in 'business-as-usual' or in time of crisis



External

- Data pooling: A recent EBA report indicates the importance and usefulness of Data Pooling. Underlying the importance of ING participation in GCD.
- BCBS 239: Getting ING's data management right across the entire bank is essential.



ING / GCD WB Loss data program approach

Phase

1

Pilot phase:
Portfolio selection & remediation tool and process development

2

Full-fledged phase:
Complete Wholesale Banking Portfolio

Initial set up / Data Mapping

- Set up secure connection for data delivery
- Data mapping GCD – ING (e.g mapping existing fields, set up of static data)
- Refine (pilot) portfolio (names / default periods / data fields)
- Define LGD remediation approach

Gather data

Perform historical LGD data remediation:

Gather required data (cost & recovery and transactional data) from systems, locations etc.

Perform validations

Validate remediated LGD data:

- Process to internally run GCD validation rules
- Add ING specific validation rules
- 4 eyes check & quality control on completed files

Periodical data delivery for Wholesale Banking Portfolio's

Include LGD data capturing in Business as Usual processes and systems (e.g. ICare, LGD lab) to ensure data capturing going forward

Program workstreams and main deliverables

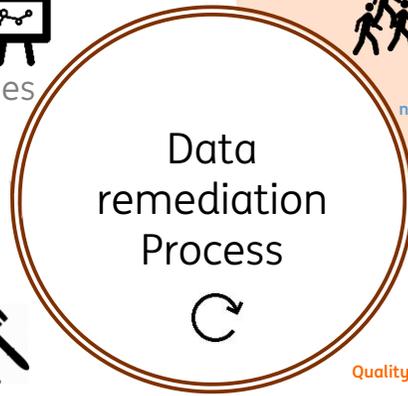
Project phases	<h3>Workstream 1: Data Remediation</h3> <p><i>To be prepared for ECB TRIM onsite and model redevelopments (with focus on historical LGD data)</i></p> <ul style="list-style-type: none"> Perform historical LGD data remediation for WB defaults in scope (as of 2008). Coordination, Assistance, Data preparation and processing, Quality Assurance. Order of the portfolios is based upon upcoming ECB TRIM and model redevelopment priorities. 		<h3>Workstream 2: Changes going forward</h3> <p><i>To ensure no more data remediation is required and data is collected going forward as part of the standard process.</i></p> <ul style="list-style-type: none"> Set up of standalone transaction (cost & recovery) module capturing all required data. LGD lab: contains LGD data. Source for modelling data and GCD data delivery Ensure knowledge is maintained and data completeness and quality is ensured going forward. 			
	<p>Main teams involved: Global / Regional restructuring units, Wholesale Banking Front Office teams, Reporting teams, Model Development and Model Validation</p>		<p>Teams: LGD lab development team / iCare development team, Global Credit Restructuring, Model Development and Model Validation</p>			
Main deliverables	<p>LGD data remediation: tooling (access template), process and instruction manual</p> <p>Completed LGD remediation for files / WB portfolios</p>	<p>GCD LGD data pools: Mapping tables and process to run GCD validation rules internally</p>	<p>Structural tool for LGD data capturing:</p> <p>C&R module + instruction manual</p> <p>Note: also new fields are included in local lending systems</p>	<p>LGD lab:</p> <p>Source for modelling data and GCD LGD data pool delivery</p>	<p>Structural GCD data delivery process and PTA's</p>	<p>CoE LGD data team: Centre of Excellence team set up for LGD data</p>

Data Remediation phases (overview)

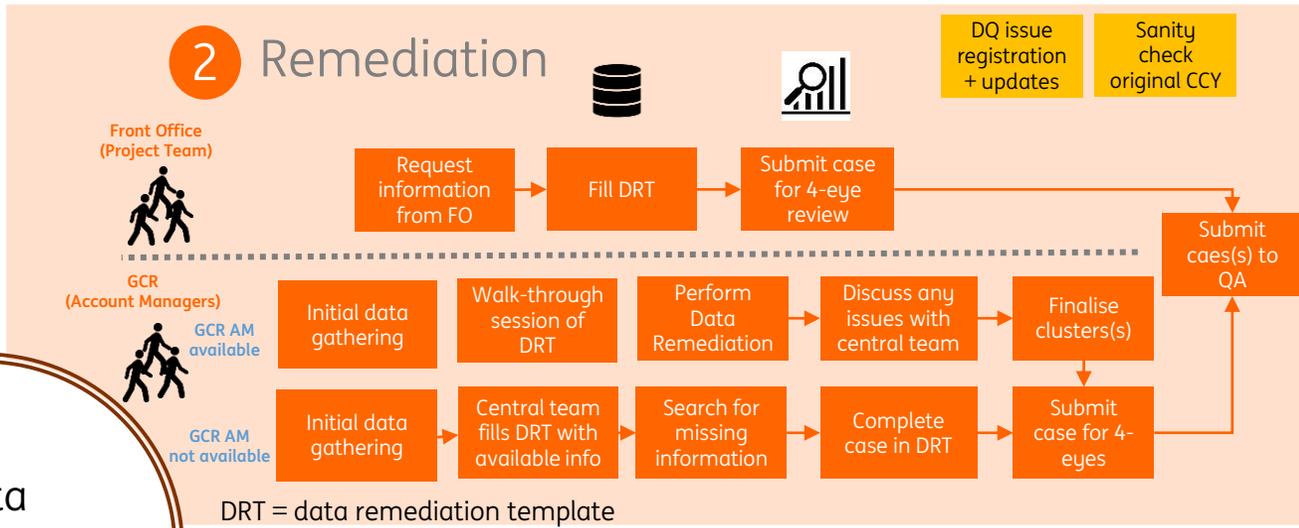
Scope, planning and milestones

1 Preparation

- Scope list per regional restructuring unit / team
- Information pack (priorities, timelines)
- Support documents (Remediation instructions etc.)
- Data remediation template filled with system data of default clusters (including the sanity check)
- Kick-off session and walkthrough with involved parties



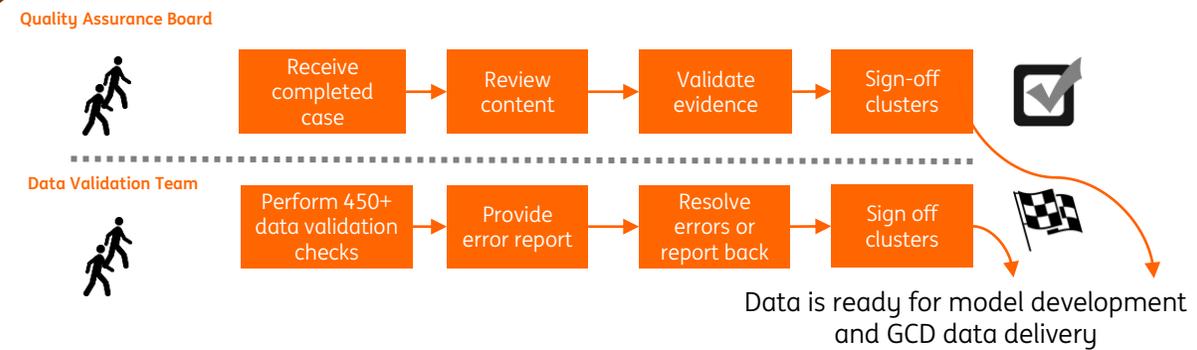
2 Remediation



4 Closing

- Evaluation of remediation with involved parties (e.g. instruction updates, time spend)
- Gather lessons learned for next remediation approach

3 Validation



Evidence based remediation: Type of information gathered for remediation purposes

Category	Field	High-level system reference	High-level process reference	Source
Default	Nature of default Default period	II - Information gathering	B Restructuring	- risk rater report (updates) - CSSR
Facility	Country of jurisdiction Seniority code Balloon percentage Negative / Positive Pledge	II - Information gathering	A Front Office	- loan agreement - restated / amended agreement - repayment schedule
Cost & Recovery	Date, currency, type, source	I - Data Integration II - Information gathering	B Restructuring	- data from booking systems (e.g. Loan IQ, GBS, GVA) - sale agreement - settlement agreement - write-off memo
Pricing	Base rate + spread	II - Information gathering	A Front Office	- loan agreement - restated / amended agreement - CSSR - approval package
Collateral	Collateral value at different dates	II - Data Integration II - Information gathering	A Front Office	- appraisal / Valuation reports - annual financial statement
	Collaterals sold/not sold	I - Data Integration II - Information gathering	B Restructuring	- data from booking systems (e.g. Loan IQ, GBS, GVA) - sale agreement - settlement agreement
	Guarantee called/not called	I - Data Integration II - Information gathering	B Restructuring	- data from booking systems (e.g. Loan IQ, GBS, GVA) - sale agreement - settlement agreement
Entity	Financials (Sales, Assets, Interest Bearing Debt)	II - Information gathering	A Front Office	- annual financial statement - audit reports - finan
	Transfer to court date	II - Information gathering	B Restructuring	- filing for chapter 11 - government bankruptcy database - CSSR

Note: This is not an exhaustive overview. Other type of documentation is gathered depending on the deal

Challenges

Main challenges for the ING WB loss data program:

- **Create awareness, ensure commitment and priority:** required to ensure delivery timelines would be met.
- **Data mapping:** definitions for GCD look up values missing. Correct mapping to ING values to be ensured.
- **Data completeness / variety of sources:** Most fields could be filled with centrally available system data. Appr. 30% full or partial data remediation for which information is coming from restructuring units (dealing with 'problem' loans) and/or Front Office.
- **Data availability:** Teams no longer existing / Legacy systems.
- **New data requirements:** new data requirements being raised resulting from ECB TRIM onsite, ongoing model redevelopment etc.
- **ING WB rescoping exercise ongoing in parallel:** resulted in adjustments for LGD remediation scope.
- **Ensuring consistency of LGD data remediation** as part of the process
- **DoD:** Incorporation of Definition of Default

2 - iCARE Cost & Recovery Demo (Dummy client)

Printscreens from C&R module to be included: dummy client, no actual client information

File Overview - Screenshots

File Overview Default Cluster Transactions File Details Sanity Check

Legal Ultimate Parent	Default Date	Resolution Date	Transactions				Vortex	
	Confirmed	Unconfirmed	Draft	Pending Review	Reviewed	Total	Refresh Date	
	1	0	0	111	0	111	17 Oct 2022	⋮ ▼

1 record

Default cluster

File Overview **Default Cluster** Transactions File Details Sanity Check

Organisations in Default Data Completeness Resolved Organisations

▼ **My File**

Organisation Details				Organisation Default Date		Cost & Recovery Registration			
Grid Id ▲	Organisation	LUP Id	Rating	Default Date - Default Reason		Status	Required	Reason	i
			WO22	30 Sep 2008 - Not Willing or Able 		Confirmed Reviewer	Yes ▼		i

1 record

▼ **Unconfirmed Organizations** Add Organisation  Legal Ultimate Parent (All) ▼

Grid Id ▲	Organisation	LUP Id	Rating	Default Date - Default Reason		Status	i
			WI22	22 Jul 2009 ▼		Draft	
				No Default Date ▼		Draft	

2 records

Transaction - Overview

File Overview | Default Cluster | **Transactions** | File Details | Sanity Check

Overview | Incoming | Upload | Archive All amounts x1,000

Filter Organisation	Grid Id	On Balance Default O/S	On Balance Current O/S	Sanity %	Write-Off	Reversal of Write-Off	Cashflow In	Cashflow Out	CCY
<input type="checkbox"/> -		-	-	N/A	-	-	-	-	-

Facility ID	Facility Type	Month
<input type="checkbox"/> -		(All)

Add Reset

Transaction Type (All) | C/R Type (All) | Department (All) | Status (All) | Source (All)

Cumulative Costs

€ -232,401.93

Cumulative Recoveries

€ 320,056.98

	ING Booking Date	Cost/Recovery Type	Recovery Source	Organization	Facility	Cover	Transaction Amount	CCY	Status	Source		Workflow	<input type="checkbox"/>
▶	R 24 Jul 2015	Write-Off	-				1,387.11	EUR	Pending ...	Manual	✗	✗	<input type="checkbox"/>
▶	R 24 Jul 2015	Principal Pay...	Sale of Collat...				1,387.11	EUR	Pending ...	Manual	i	✗	<input type="checkbox"/>
▶	C 20 Dec 2012	Interest Char...	-				-44.08	EUR	Pending ...	Manual	✗	✗	<input type="checkbox"/>
▶	C 20 Sep 2012	Interest Char...	-				-55.17	EUR	Pending ...	Manual	✗	✗	<input type="checkbox"/>
▶	C 20 Jun 2012	Interest Char...	-				-60.76	EUR	Pending ...	Manual	✗	✗	<input type="checkbox"/>

Transaction – Incoming & Upload

File Overview | Default Cluster | **Transactions** | File Details | Sanity Check

Overview | **Incoming** | Upload | Archive All amounts x1,000

Source System (All) Organisation (All) Facility (All)
Transaction Type (All) C/R Type (All) CCY (All) Reset ↻

ING Booking Date	Transaction Amount	Transaction CCY	Organisation	Facility	Cover	Transaction Type	C/R Type	Original C/R Type	Recovery Source	Price of Credit (%)	Counterparty Account Number	Agreement Vortex	Transaction Note
No Cost and Recoveries available...													

0 records

File Overview | Default Cluster | **Transactions** | File Details | Sanity Check

Overview | Incoming | **Upload** | Archive All amounts x1,000

[Download Template](#) 📄

Choose File No file chosen | File Name | Comments | **Upload**

Id	File Name	Creation Date	Upload user	Status	Action
No uploaded transactions to show...					

0 records

File Details – At Default Moment Overview

File Overview | Default Cluster | Transactions | **File Details** | Sanity Check

All Incomplete All amounts x1,000

1 Year prior to default | **At moment of default** | Post default | Resolution

Grid Id	Organisation	Rating	Default Date	Default reason
			30 Sep 2008	Not Willing or Able

1 record

Facility Id	Grid Id	Facility Type	Limit	O/S	# Covers	CCY
1008534	1	Mortgage loan - Fix...	80,000.00	80,000.00	3	EUR
1008537	1	Private loan - Straig...	7,655.04	7,655.04	0	EUR

2 records

Cover Id	Facility Id	Cover Type	Provider Id	Credit Risk	Cr %	Market Value	CCY
		Fixed mortgage -...		0.00	0	0.00	EUR
		Fixed mortgage -...		0.00	0	0.00	EUR
		Fixed mortgage -...		0.00	0	0.00	EUR

3 records

Guarantor Id	Guarantor	Borrower Id	Default Date
No guarantors to show...			

0 records

File Details – At Default Moment Financials

Edit Organisation Details - At moment of Default

All amounts x1,000

Grid Id	Organisation	Default Date	Default Reason	Resolution Date	Resolution Reason	Rating
		30 Sep 2008	Not Willing or Able	31 Oct 2021	Exit	0

Financial Details

Financial Currency *

EUR

Financial Date *

2007-12-31 

Entity Assets *

387348.3235 x1,000

Entity Sales *

10032.065 x1,000

Total Int. bearing Debt *

268276.916 x1,000

File Details – At Default Moment Facility details

Edit Facility Details - At moment of Default

All amounts x1,000

Facility Id	Facility Type	Limit Type	Initiating Office	Limit	Total O/S	On Balance O/S	CCY	Organisation	Rating
	Mortgage loan - Fixed mortgage (inactive)	Independent		80,000.00	80,000.00	0.00			0

Miscellaneous Details

Seniority Code (Vortex)
-

Seniority Code *
Pari-Passu

Country of Jurisdiction (Vortex)
-

Country of Jurisdiction *
-

Pricing Details

Base Rate (Vortex)
-

Base Rate *
Euribor

Spread (Vortex)
0 bps

Spread *
150 bps

Total Spread (Vortex)
0 bps

Total Spread
- bps

Balloon Repayment Amount (Vortex)
EUR 0 x1,000

Balloon Repayment Amount *
EUR 75600 x1,000

Contractual Limit Amount
EUR 80000 x1,000

File Details – At Default Moment Cover Details

Edit Cover Details - At moment of Default

All amounts x1,000

Cover Id	Cover Type	Credit	Cr %	CCY	Provider Id	Organisation	Rating
	Fixed mortgage - offices (inactive)	0.00	0	EUR			0

Project Details

Project Type
-

Project Finance Technology (Vortex)
-

Project Finance Technology
-

Valuation Details

Rank of Security (Vortex)
-

Rank Of Security *
First Charge

Valuation Type *
Market value by a third party or institution

Collateral Valuation Evidence *
Sufficient evidence - External

Collateral Value (Vortex)
EUR 0 x1,000

Collateral Value
EUR 107750 x1,000

Date of Valuation (Vortex)
-

Date of Valuation *
2007-02-21

File Details – Post Defaults Loan Linking

Link replacement facility to original facility ✕

Overview of linked facilities

Organisation	Grid Id	Facility Id	Original Organisation	Original Grid Id	Original Facility Id	Facility Replacement Date	Confidence Level	Original Facility remains active	
						25 Nov 2013	100%	No	
						22 Nov 2013	100%	No	
						22 Nov 2013	100%	No	
						01 Jun 2009	100%	No	
						01 Jun 2009	100%	No	

1 to 5 of 7 records 1 2 next →

Create a new link

Select Replacement Facility

Organization

Facility

Facility List (10)

n Loan Given Non Revolving (Inactive)

Select Original Facility

Organization

Facility

File Details – Post Defaults Cover linking

Link replacement cover to original cover ✕

Overview of linked covers

Cover Id	Cover Type	Facility Id	Original Cover Id	Original Cover Type	Original Facility Id	Cover Replacement Date	Confidence Level	Original Cover remains active		
	Retail Top location			Retail A location		15 Jul 2015	100%	No		
	Office C location			Fixed mortgage - offices ...		30 Jun 2009	100%	No		
	Retail A location	-----	-----	Fixed mortgage - retail (i...		30 Jun 2009	100%	No		

3 records

Create a new link

Select Replacement Cover

Facility *

Cover *

Comment *

Select Original Cover

Facility *

Cover *

Sanity check – 1 facility

Outstanding movements and Sanity Check per month

Transaction Status

(All) ▾

All amounts x1,000

Grid Id	Organisation	Facility Id	Facility Type	Limit Type	Current Sanity %	On Balance Default O/S	On Balance Current O/S	CCY
		R	Term Loan Given Non Revolving	Independent	0.00	0.00	0.00	EUR

Reporting Date	CCY	On Balance O/S (Vortex)	On Balance O/S	On Balance O/S Delta	Orig. CCY	On Balance O/S (Vortex)	On Balance O/S	On Balance O/S Delta	Sanity %	Write-Off	Reversal of Write-Off	Cashflow In ↗	Cashflow Out ↘	CCY
31 Oct 2021	EUR	0.00	-	-2,500.00	EUR	0.00	-	-2,500.00	0.00	-	1,387.11	3,887.11	-	EUR
30 Sep 2021	EUR	2,500.00	-	0.00	EUR	2,500.00	-	0.00	0.00	-	-	-	-	EUR 
31 Aug 2021	EUR	2,500.00	-	0.00	EUR	2,500.00	-	0.00	0.00	-	-	-	-	EUR 
31 Jul 2021	EUR	2,500.00	-	0.00	EUR	2,500.00	-	0.00	0.00	-	-	-	-	EUR 
30 Jun 2021	EUR	2,500.00	-	0.00	EUR	2,500.00	-	0.00	0.00	-	-	-	-	EUR 
31 May 2021	EUR	2,500.00	-	0.00	EUR	2,500.00	-	0.00	0.00	-	-	-	-	EUR 
30 Apr 2021	EUR	2,500.00	-	0.00	EUR	2,500.00	-	0.00	0.00	-	-	-	-	EUR 
31 Mar 2021	EUR	2,500.00	-	0.00	EUR	2,500.00	-	0.00	0.00	-	-	-	-	EUR 
28 Feb 2021	EUR	2,500.00	-	0.00	EUR	2,500.00	-	0.00	0.00	-	-	-	-	EUR 
31 Jan 2021	EUR	2,500.00	-	0.00	EUR	2,500.00	-	0.00	0.00	-	-	-	-	EUR 
31 Dec 2020	EUR	2,500.00	-	0.00	EUR	2,500.00	-	0.00	0.00	-	-	-	-	EUR 
30 Nov 2020	EUR	2,500.00	-	0.00	EUR	2,500.00	-	0.00	0.00	-	-	-	-	EUR 

1 to 12 of 96 records

1

2

3

4

5

...

next →

Completeness Date



Please ensure that the data for organization _____, its facilities, covers and guarantors is complete, sanity % is met and all costs and recoveries are reviewed.

File Details - Overview of Incomplete records

	Prior to Default	Moment of Default	Post Default	Resolution
Organizations	NA	0	NA	1
Facilities	0	0	NA	0
Covers	0	0	NA	0
Guarantors	NA	0	NA	NA

Sanity % : -100.00 %

Transactions Overview - Pending Transactions

Not Reviewed **111**

Completeness Date *

YYYY-MM-DD



Comments

Save

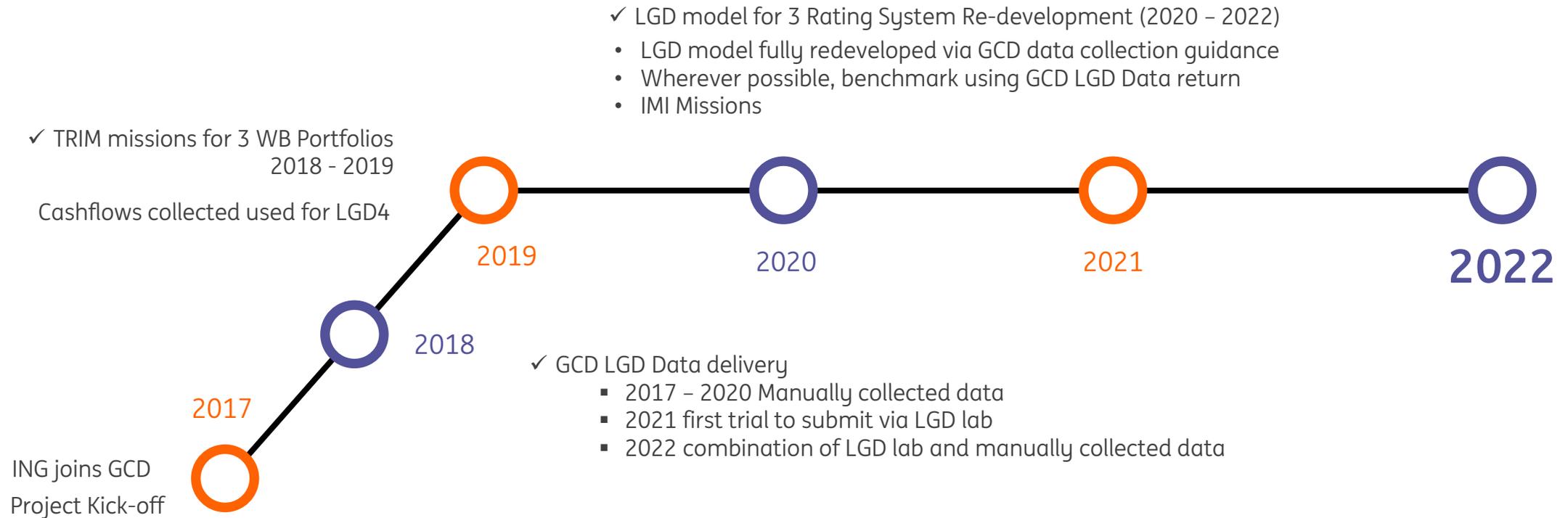
or

Cancel

3 - Outcomes: Successes

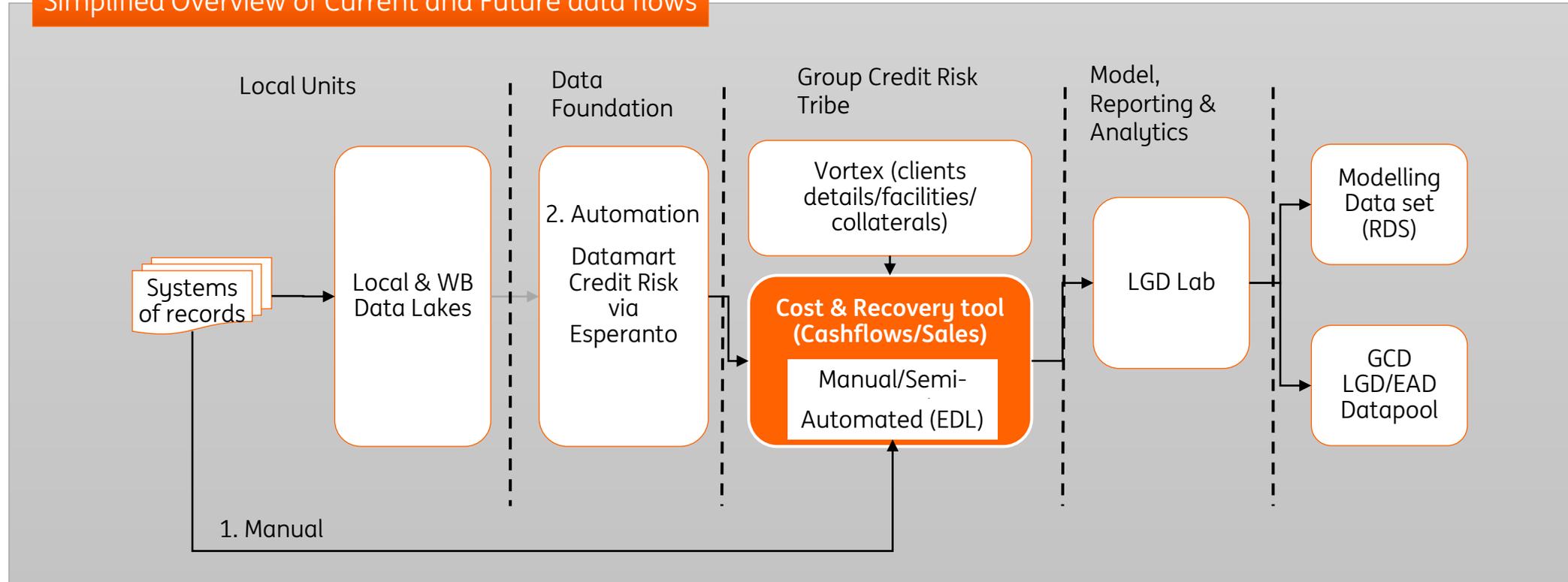
The LGD data collected are used predominantly for the following purposes:

- ❑ TRIM on-site inspections
- ❑ WB Rating Systems LGD model redevelopment
- ❑ WB Model Monitoring/Periodical Validation
- ❑ GCD LGD/EAD Data Submission



4 - Next Steps: Towards Business-As-Usual & Automation

Simplified Overview of Current and Future data flows



Semi (Manual) & Historical Remediation

- Cashflows are obtained and entered (semi)-automated
- Historical data & transition towards quarterly updates
- Focus on WB portfolios
- Manually push the data to LGD
- GCD / ING WB Loss data program closed in September 2022
Handed over to BAU

Automation & Up-to-date data

- Cashflows are delivered via Data Foundation including Sanity Checks
- All Business clients (WB and Mid-Corp)
- Quarterly data delivery to LGD lab

Q&A



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