

BIRD

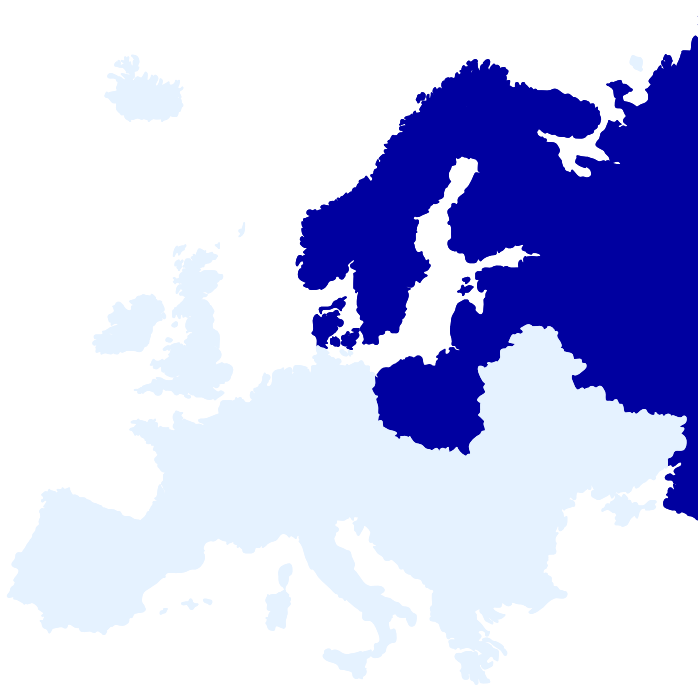
Practical Insights into Banks' Adoption of the ESCB's BIRD (Banks' Integrated Reporting Dictionary) Methodology

Olivia Hauet, Business owner regulatory reporting Nordea

London, 12 June 2019



Nordea: a global bank with Nordic roots and a presence in 20 countries



- Total operating income: EUR 9 billion
- Total assets: EUR 551.4 billion (2018)
- Four Nordic home markets; Denmark, Finland, Norway, Sweden
- Subsidiaries, branches and representative offices in 20 countries
- Largest customer base in Nordic region with 10 million household customers and 1 million institutional customers.
- G-SIB bank until 2017
- Major changes in legal structure in recent years:
 - “Branchification” 2016-2017
 - Re-domiciliation of the parent company to Finland 2017-2018



Olivia Hauet Business owner regulatory reporting, Group Finance Finland

- At Nordea since 2016, previously Requirements lead AnaCredit
- With BIRD since 2016: first Expert (AnaCredit, FINREP), currently co-Chair Steering Group since 2018
- Member of Reporting & Statistics WG at the European Banking Federation
- Prior to Nordea: front-to-back system implementations at National Central Banks worldwide
- French, based in Stockholm since many years

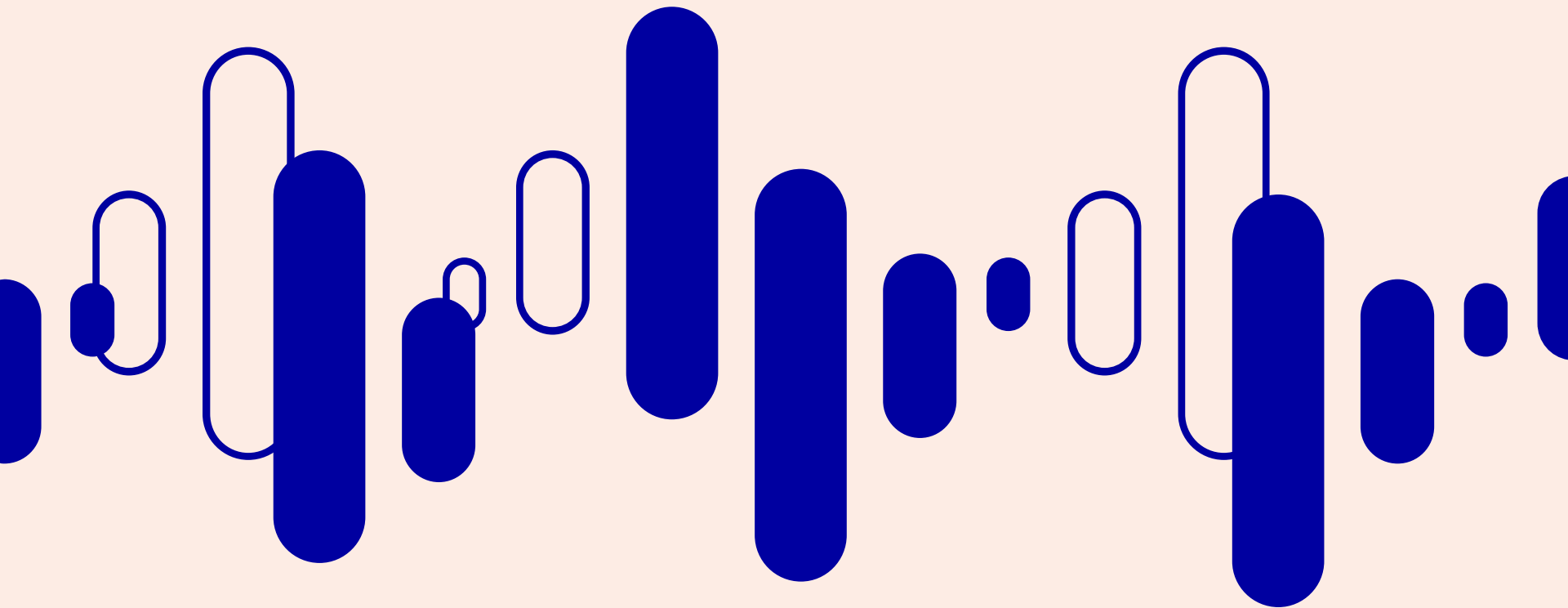
Overview

- Current status, principles, workplan and vision
- Methodology used for integration of EBA template-based reporting - case study of FINREP 05.01 “Loans and advances”
- Questions and answers



Acknowledgements: Thank you to the European Central Bank and to BBVA for their strong contribution to this presentation.

BIRD: current status, principles, workplan and vision



A strong foundation and vision

Source:
ECB

BIRD was founded to:

- Serve reporting banks (on a voluntary basis) by providing a **unique input layer** from which different reporting frameworks can be generated;
- **Help streamline** the regulatory reporting processes within banks;
- Decrease time and effort to analyse and implement new reporting requirements (**↑ efficiency**, **↓ costs**);
- Help enhancing the **harmonisation** of data processing rules used by banks to report to authorities.



BIRD is compliant with BCBS 239 principles

BIRD and BCBS 239 principles are aligned

**Source:
BBVA**

Data architecture and IT infra- structure

A bank should design, build and maintain data architecture and IT infrastructure which fully supports its risk data aggregation capabilities and risk reporting practices not only in normal times but also during times of stress or crisis, while still meeting the other Principles.

33. A bank should establish integrated data taxonomies and architecture across the banking group, which includes information on the characteristics of the data (metadata), as well as use of single identifiers and/or unified naming conventions for data including legal entities, counterparties, customers and accounts.

» **Standardized data model with unique functional definitions, taxonomies and mappings.**

Accuracy and integrity

A bank should be able to generate accurate and reliable risk data to meet normal and stress/crisis reporting accuracy requirements. Data should be aggregated on a largely automated basis so as to minimise the probability of errors.

37. As a precondition, a bank should have a “dictionary” of the concepts used, such that data is defined consistently across an organisation.

» **BIRD provides a data dictionary that is based on the ECB Single Data Dictionary.**

» **Transformation rules, including aggregation are documented in BIRD.**

Adaptability

A bank should be able to generate aggregate risk data to meet a broad range of on-demand, ad hoc risk management reporting requests, including requests during stress/crisis situations, requests due to changing internal needs and requests to meet supervisory queries.

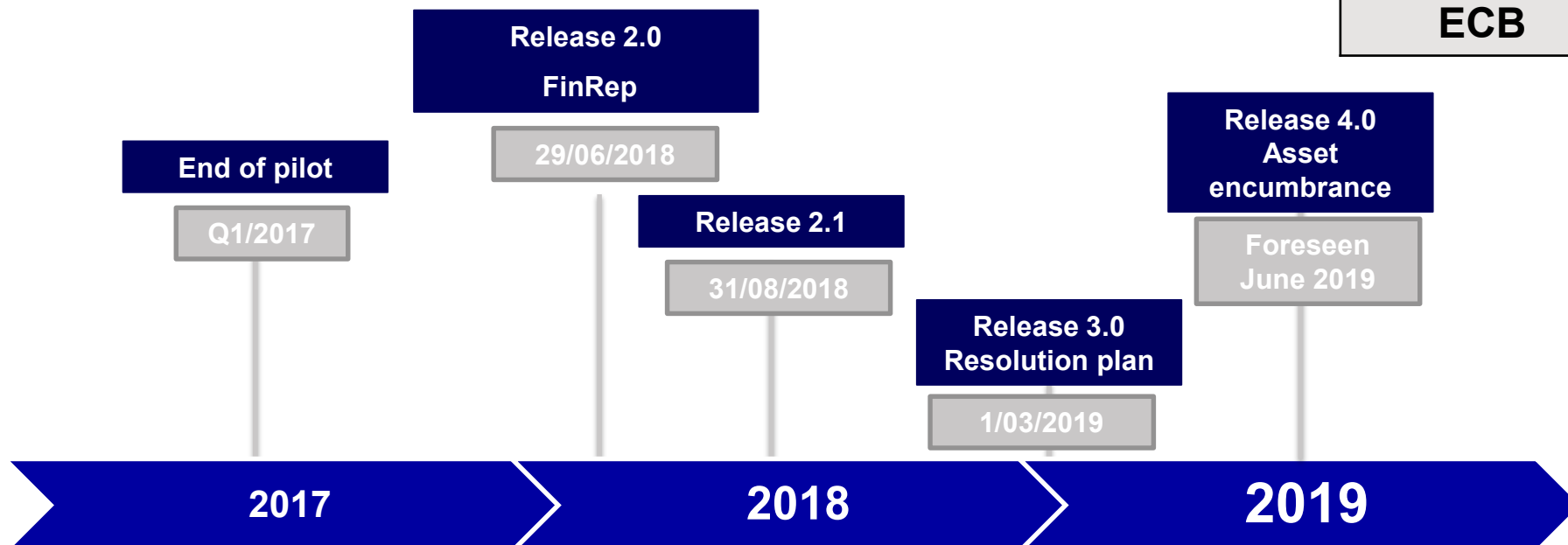
48. A bank's risk data aggregation capabilities should be flexible and adaptable to meet ad hoc data requests, as needed, and to assess emerging risks. Adaptability will enable banks to conduct better risk management, including forecasting information, as well as to support stress testing and scenario analyses.

» **BIRD model is defined with regulators and could be used for ad-hoc requests.**

» **BIRD model is granular, unique and has a broad scope of variables.**

BIRD milestones and highlights

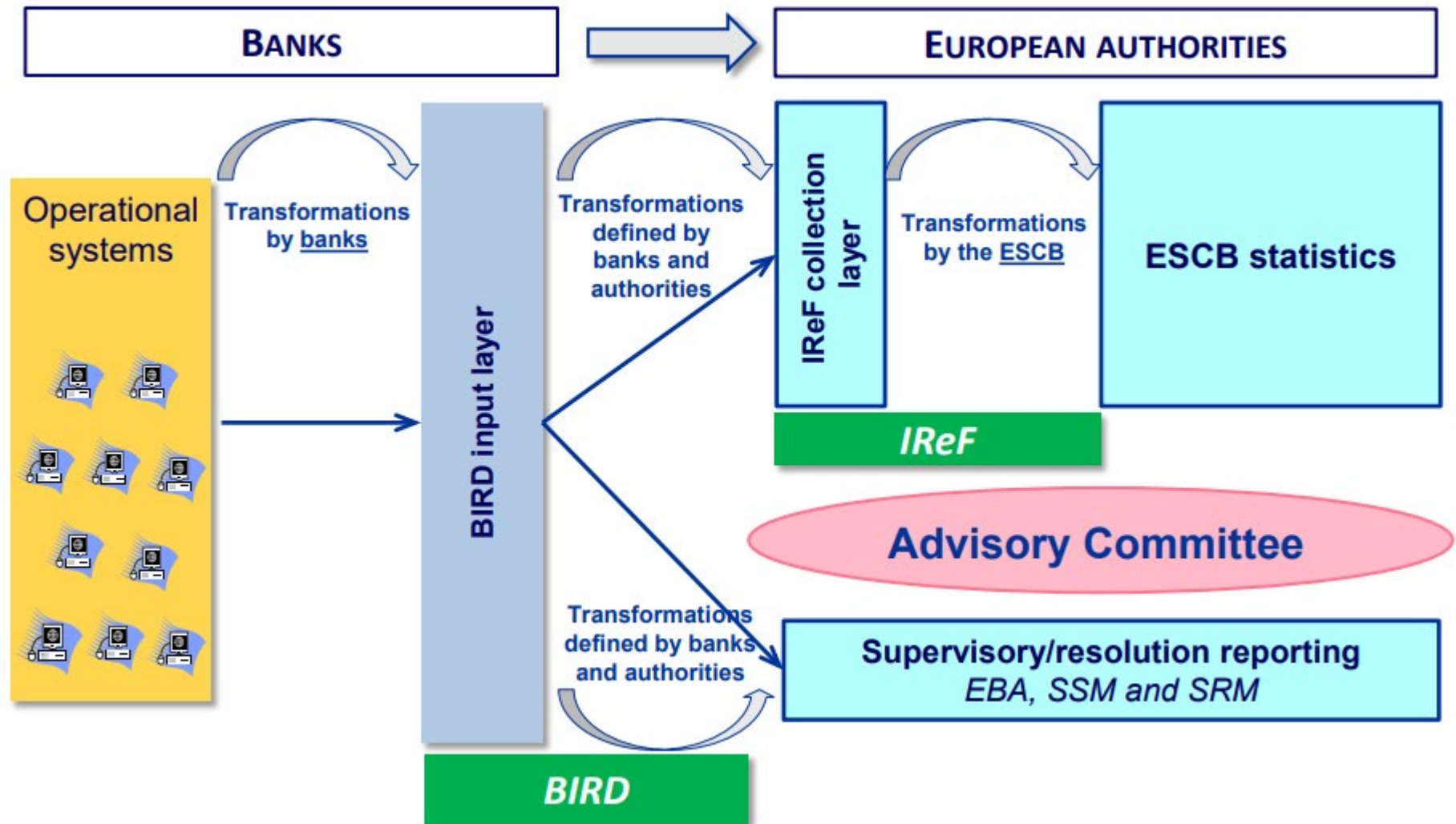
Source:
ECB



- March 2019 starting BIRD test activities, deadline March 2020
- Q4 2018 starting the permanent BIRD modelling group
- BIRD next releases in 2019:
 - NPL
 - Corep Credit risk
 - Securitisation

- **10 countries**, **6 NCBs**, and **29 commercial banks** involved
- In total, **180 people** were involved in BIRD meetings and shared their views in our cooperative web platform
- More **5300** visits on the BIRD website since 1st January 2019
- **13 consultancy companies** currently involved in testing phase;
- **62** input cubes, **~ 800** transformation schemes

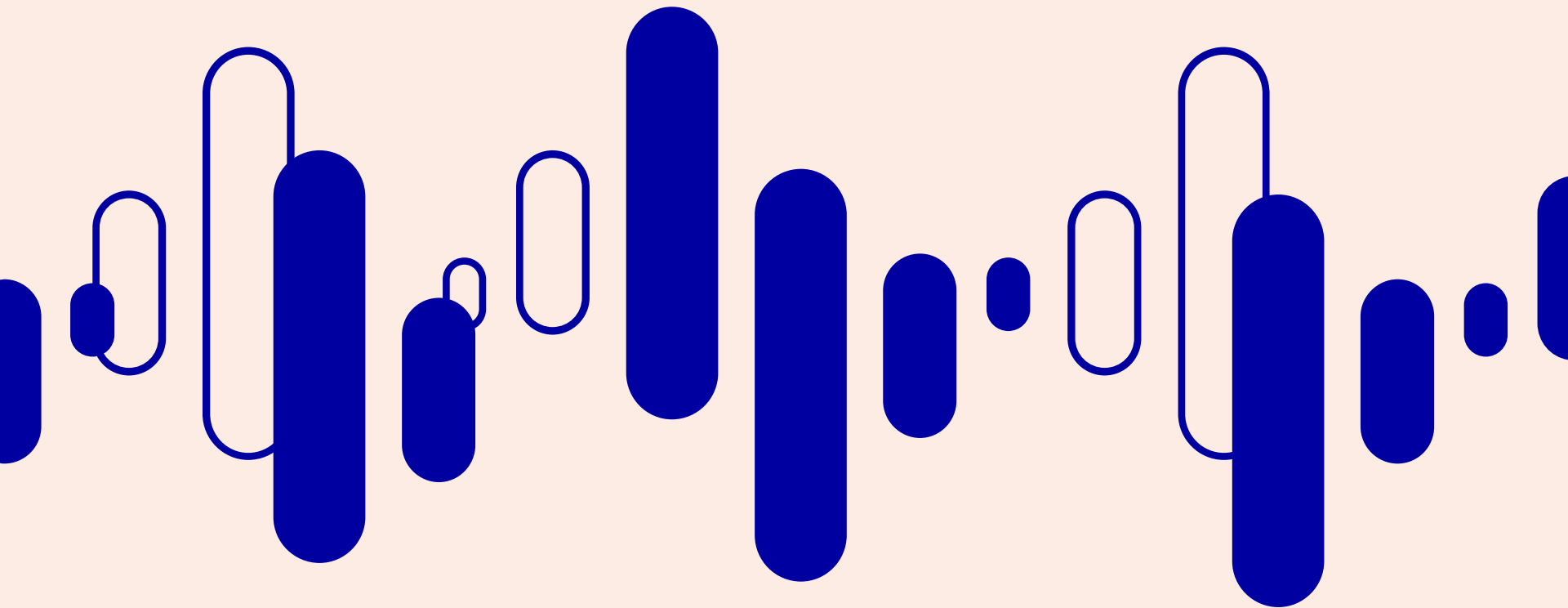
BIRD in the larger context of the future of the reporting



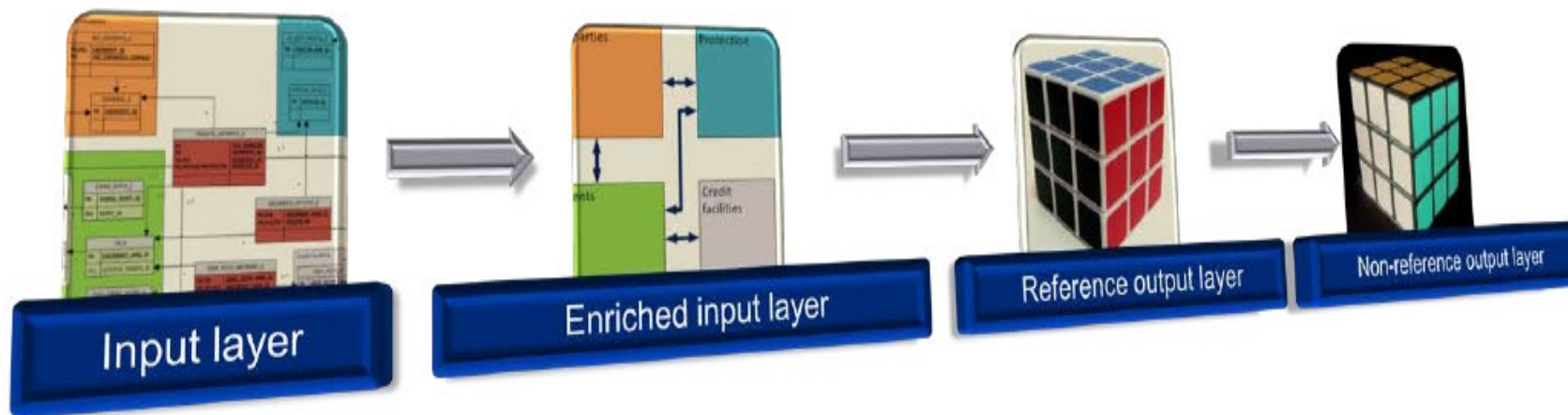
Article 430c (previously 100) of the CRR 2

- The EBA shall prepare a feasibility report for the development of a consistent and integrated system for collecting **statistical, resolution** and **prudential** data.
- The EBA shall involve all **relevant authorities**.
- The **previous work** carried out by the ESCB shall be taken into account.
- The report should be based on a **cost and benefit analysis** taking into consideration:
 - ✓ **Overview** of the quantity and scope of the current data collected
 - ✓ The establishment of a **standard data dictionary**
 - ✓ The establishment of a **joint committee** for the development and implementation of the system (EBA, ESCB...)
 - ✓ The feasibility and possible design of a **central data collection point**.
- The EBA to report to the Commission its findings 12 months after the entry into force of the CRR2.

BIRD: process and methodology



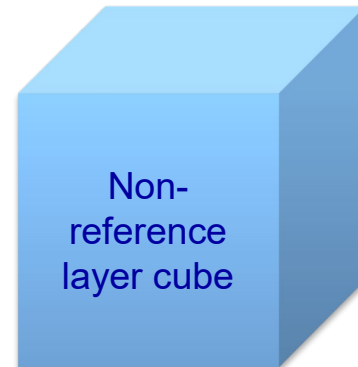
BIRD process overview



- Feeding the **Input Layer** from bank's internal IT systems, following the structure of the input cubes defined by BIRD
- Creation of **Enriched Input Layer** (i.e. an intermediate layer that is used to generate all reporting requirements)
- Generation of **Reference Output Layer**
- Generation of **Non-reference Output Layer** (by applying mappings)

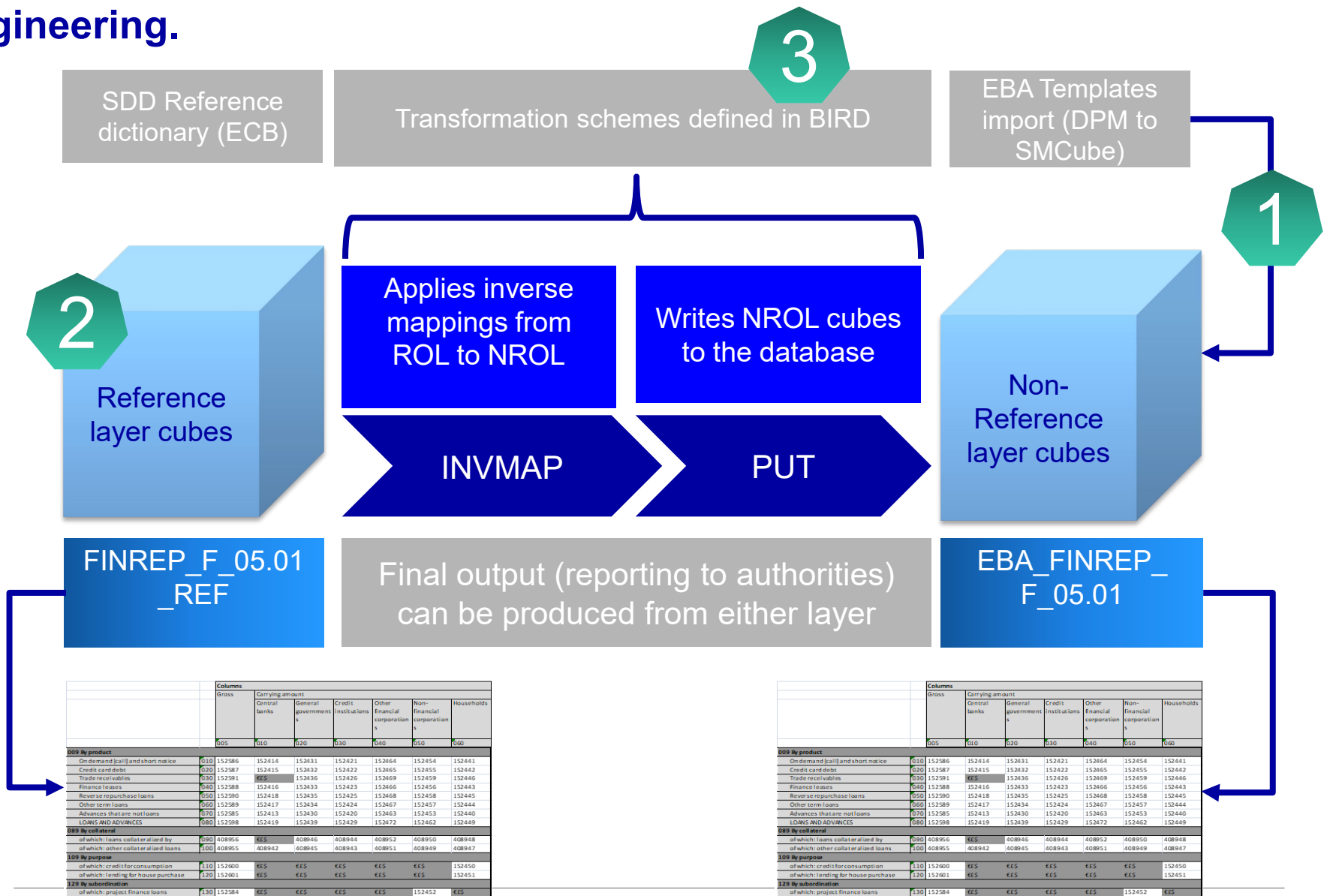
EBA templates modelled in DPM are imported as cubes to BIRD non-reference layer

		Columns											
		Gross	Carrying amount								(MCG:MC)		
			Central banks	General government s	Credit institutions	Other financial corporation s	Non-financial corporation s	Households			Main category of collateral or guarantee received	(PUR:PU)	(MCB:MC)
		005	010	020	030	040	050	060	(MCY:MC)	(APL:PL)		Purpose	Instrument
009 By product													
On demand [call] and short notice	010	152586	152414	152431	152421	152464	152454	152441	(MC:x469)	(PL:x77)			(MC:x824)
Credit card debt	020	152587	152415	152432	152422	152465	152455	152442	(MC:x469)	(PL:x77)			(MC:x825)
Trade receivables	030	152591	€€\$	152436	152426	152469	152459	152446	(MC:x469)	(PL:x77)			(MC:x829)
Finance leases	040	152588	152416	152433	152423	152466	152456	152443	(MC:x469)	(PL:x77)			(MC:x826)
Reverse repurchase loans	050	152590	152418	152435	152425	152468	152458	152445	(MC:x469)	(PL:x77)			(MC:x828)
Other term loans	060	152589	152417	152434	152424	152467	152457	152444	(MC:x469)	(PL:x77)			(MC:x827)
Advances that are not loans	070	152585	152413	152430	152420	152463	152453	152440	(MC:x469)	(PL:x77)			(MC:x823)
LOANS AND ADVANCES	080	152598	152419	152439	152429	152472	152462	152449	(MC:x469)	(PL:x77)			
089 By collateral													
of which: loans collateralized by	090	408956	€€\$	408946	408944	408952	408950	408948	(MC:x469)	(PL:x77)	(MC:x292)		
of which: other collateralized loans	100	408955	408942	408945	408943	408951	408949	408947	(MC:x469)	(PL:x77)	(MC:x262)		
109 By purpose													
of which: credit for consumption	110	152600	€€\$	€€\$	€€\$	€€\$	€€\$	152450	(MC:x469)	(PL:x77)		(PU:x1)	
of which: lending for house purchase	120	152601	€€\$	€€\$	€€\$	€€\$	€€\$	152451	(MC:x469)	(PL:x77)		(PU:x3)	
129 By subordination													
of which: project finance loans	130	152584	€€\$	€€\$	€€\$	€€\$	152452	€€\$	(MC:x469)	(PL:x77)			(MC:x360)
Metric		(mi136)	(mi53)	(mi53)	(mi53)	(mi53)	(mi53)	(mi53)					
(BAS:BA) Base		(BA:x6)	(BA:x6)	(BA:x6)	(BA:x6)	(BA:x6)	(BA:x6)	(BA:x6)					
(CPS:CT) Counterparty sector			(CT:x10)	(CT:x1)	(CT:x12)	(CT:x18)	(CT:x20) Non-	(CT:x5)					



DataPointVID 152450
 DataPointID 152450
 Accounting portfolio = Financial assets other than Held for trading and Trading Financial Assets
 Metric = Carrying amount
 Base = Assets
 Counterparty sector = Households
 Main category = Loans and advances
 Purpose = Credit for consumption

“ROL – NROL” transformation schemes provide a translation between the SDD reference dictionary and the DPM obtained by reverse engineering.



	Columns						
	Gross	Carrying amount					
		Central banks	General governments	Credit institutions	Other financial corporations	Non-financial corporations	Households
	605	610	620	630	640	650	660
009 By product							
On demand call and short notice	610 152586	152414	152431	152421	152464	152454	152441
Credit card debt	620 152587	152415	152432	152422	152465	152455	152442
Trade receivables	630 152591	€€€	152436	152426	152469	152459	152446
Finance leases	640 152588	152416	152433	152423	152466	152456	152443
Reverse repurchase loans	650 152590	152418	152435	152425	152468	152458	152445
Other term loans	660 152589	152417	152434	152424	152467	152457	152444
Advances that are not loans	670 152585	152413	152430	152420	152463	152453	152440
LOANS AND ADVANCES	680 152598	152419	152439	152429	152472	152462	152449
089 By collateral							
of which: loans collateralized by	690 408956	€€€	408946	408944	408952	408950	408948
of which: other collateralized loans	€00 408955	408942	408945	408943	408951	408949	408947
109 By purpose							
of which: credit for consumption	€10 152400	€€€	€€€	€€€	€€€	€€€	152450
of which: lending for house purchase	€20 152401	€€€	€€€	€€€	€€€	€€€	152451
129 By subordination							
of which: project finance loans	€30 152584	€€€	€€€	€€€	€€€	152452	€€€

	Columns						
	Gross	Carrying amount					
		Central banks	General governments	Credit institutions	Other financial corporations	Non-financial corporations	Households
	605	610	620	630	640	650	660
009 By product							
On demand call and short notice	610 152586	152414	152431	152421	152464	152454	152441
Credit card debt	620 152587	152415	152432	152422	152465	152455	152442
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of which: loans collateralized by	690 408956	€€€	408946	408944	408952	408950	408948
of which: other collateralized loans	€00 408955	408942	408945	408943	408951	408949	408947
109 By purpose							
of which: credit for consumption	€10 152400	€€€	€€€	€€€	€€€	€€€	152450
of which: lending for house purchase	€20 152401	€€€	€€€	€€€	€€€	€€€	152451
129 By subordination							
of which: project finance loans	€30 152584	€€€	€€€	€€€	€€€	152452	€€€

DPM vs SMCube: Non-reference layer and translation to reference layer elements through cubes, variables and members mappings

DPM Element	DPM (example)	SMCube Element	Non-reference layer (example)	Reference layer (example)	Description
Framework / Taxonomy	FINREP / FINREP 2.8.1	Framework	EBA_FINREP	FINREP_REF	FINREP framework
Table / Template	F 05.01	Cube structure	EBA_FINREP_F_05.01	FINREP_REF_F_05.01_REF	Loans and advances, FINREP framework
Data Point	152450	Combination	EBA_152450	152450	Carrying amount of loans and advances other than held-for-trading with households for the purpose of credit for consumption
Dimension	ATY	Variable	EBA_ATY	MTRCS	Artificial variable for metrics (primary item in XBRL)
	eba_ATY(eba_136 eba_53	Variable Set	EBA_18	MTRCS_F_05.01_MTRCS_REF	Container containing the variables "Carrying amount" and "Gross carrying amount"
Member	mi53 mi136	Variable	EBA_mi53 EBA_mi136	CRRYNG_AMNT GRSS_CRRYNG_AMNT	Carrying amount Gross carrying amount
Dimension	PUR	Variable	EBA_PUR	PRPS	Variable "Purpose"
Domain	PU	Domain	EBA_PU	PRPS	Domain of the variable "Purpose"
	PU([x0 x1 x3])	Subdomain	EBA_47	PRPS_F_05.01_PRPS_REF	Subdomain of the domain purpose containing the members allowed in the template F_05.01
Member	x0 x1 x3	Member	EBA_PU_EBA_x0 EBA_PU_EBA_x1 EBA_PU_EBA_x3	PRPS_0 PRPS_1 PRPS_2	Enumerated values of Subdomain EBA_47: Not applicable/All purposes, Credit for consumption, Lending for house purchase

Enriched Input Layer to Reference Output Layer: “EIL - ROL”

Transformation schemes defined in BIRD

Derives metrics, add identifier etc.

Union with counterparties, collateral etc.

Generates the unfolded version of the reference cube

Applies hierarchies and aggregations

Writes ROL cubes to the database

ENRCH

UNION

GEN

FOLD

PUT

LNS_ADVNCSE

LNS_ADVNCSE_FINREP

INSTRMNTSCSTMRE

CNTRPRTSFINREP

LNS_ADVNCSE_DBTRSFINREP

INSTRMNTSPRTCTNS

PRTCTNSRCVD_FINREP

LNS_ADVNCSE_DBTRSPRTCTNS_FINREP

FINREP_REF_F_05.01_REF_UNFLDD

FINREP_REF_F_05.01_REF

EBA_FINREP_F_05.01

	Columns						
	Gross	Central banks	General governments	Credit institutions	Other financial corporations	Non-financial corporations	Households
	005	010	020	030	040	050	060
2019 by product							
On demand (call) and short notice	010 152586	152414	152431	152421	152464	152454	152441
Credit card debts	020 152587	152415	152432	152422	152465	152455	152442
Trade receivables	030 152591	152416	152433	152423	152466	152456	152443
Finance leases	040 152598	152416	152433	152423	152466	152456	152443
Reverse repurchase loans	050 152590	152418	152435	152425	152468	152458	152445
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LOANS AND ADVANCES	080 152598	152419	152439	152429	152472	152462	152449
2019 by collateral							
of which: loans collateralised by	090 408954	408945	408944	408952	408950	408948	408948
of which: other collateralised loans	100 408955	408942	408945	408943	408951	408949	408947
2019 by purpose							
of which: credit for consumption	110 152600	152419	152434	152424	152467	152457	152444
of which: lending for house purchase	120 152601	152419	152434	152424	152467	152457	152444
2019 by subordination							
of which: project finance loans	130 152584	152419	152434	152424	152467	152457	152444

Cubes defined in BIRD

Application of member hierarchies to generate data points (combinations)

S11
S121
S122_A_1
S122_A_2
S122_B1
S122_B2
S123
S124
S125_A
S125_B
S125_C
S125_D
S125_E
S125_I
S126
S127
S128
S129
S1311
S1312
S1313
S1314
S14_A
S14_B
S15

Sector hierarchies are applied to transform sectors defined in input layer to sectors applicable for FINREP 05.01

Sectors18: Households + non profit institutions serving households

Sectors03: Non-financial corporations

Sectors05: General government other than central government

Sectors40: Financial corporations other than MFIs, non-MMF investment funds, financial auxiliaries, captive financial institutions and money lenders, insurance corporations and pension funds

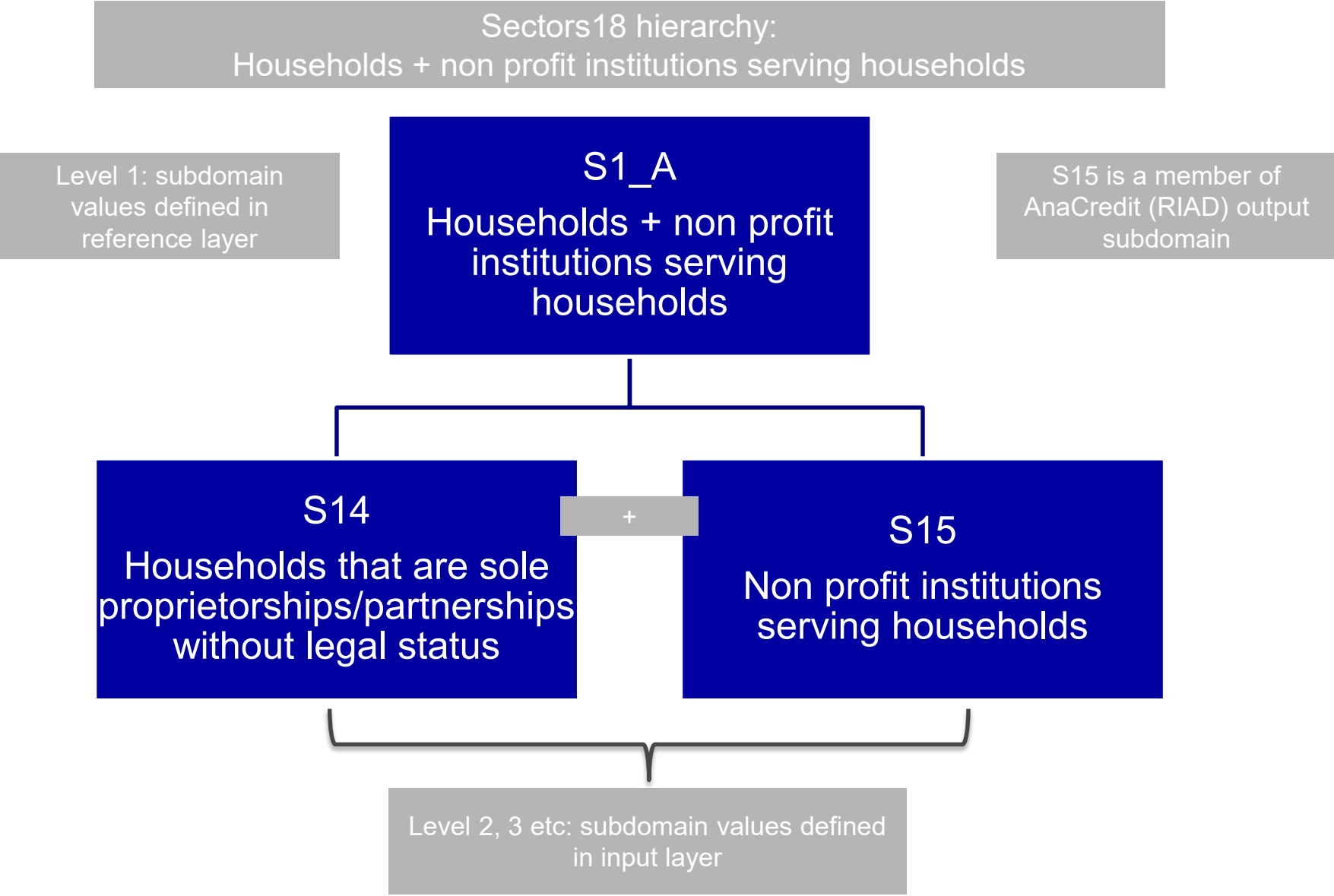
Sectors14: Financial corporations other than credit institutions

Institutional Sector Subdomain in reference layer
INSTTTNL_SCTR_F_05.01_16_INSTTTNL_SCTR_REF

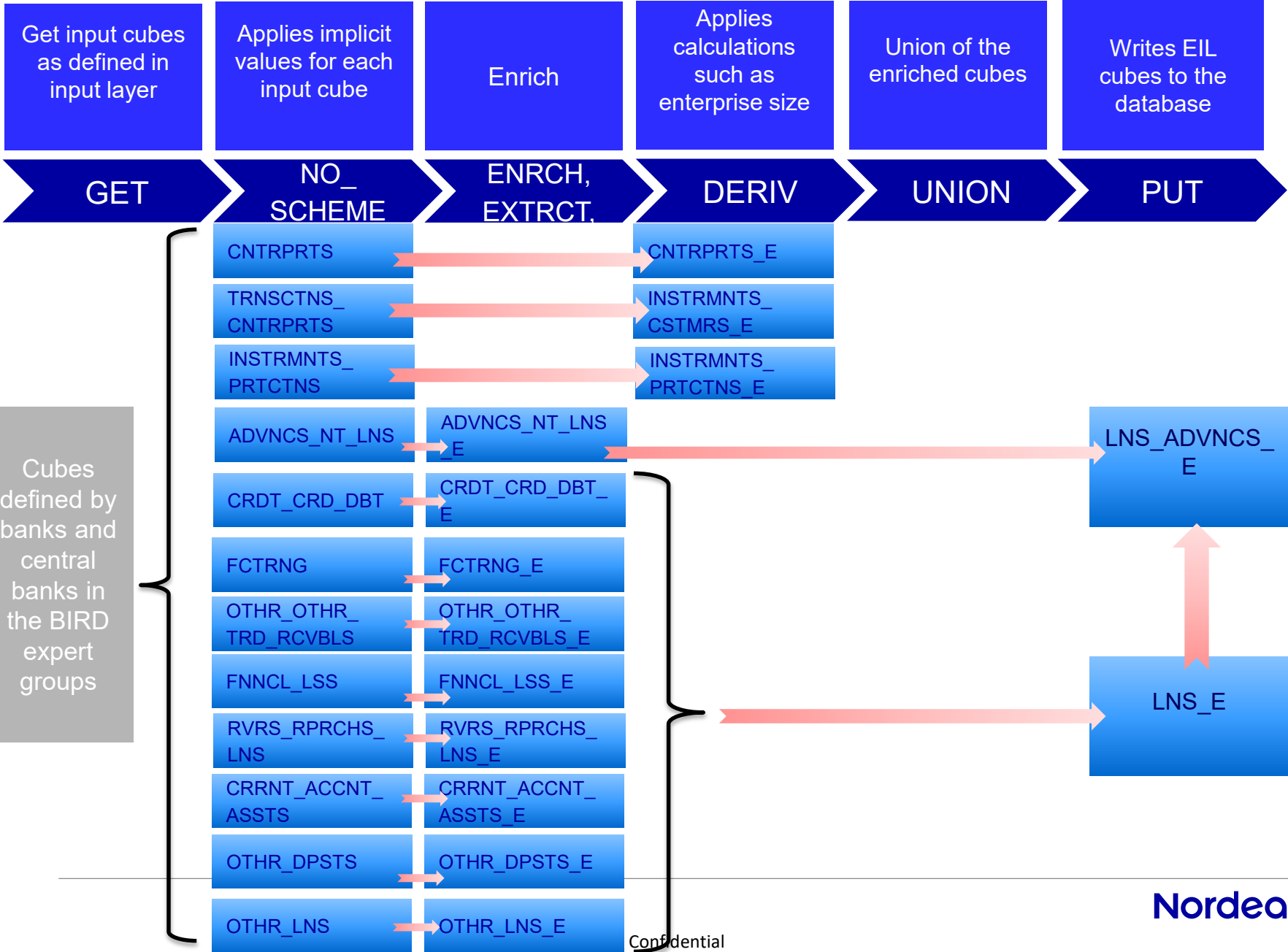
Institutional Sector Subdomain in input layer
INSTTTNL_SCTR_INPT

S1_A	Households
S1_MDB	Credit institutions including multilateral development banks
S11	Non-financial corporations
S12_D	Financial corporations other than credit institutions
S121	Central banks
S13_IO	General government including international organisations

Example of member hierarchy used to define Household sector



Input Layer to Enriched Input Layer “IL - EIL”

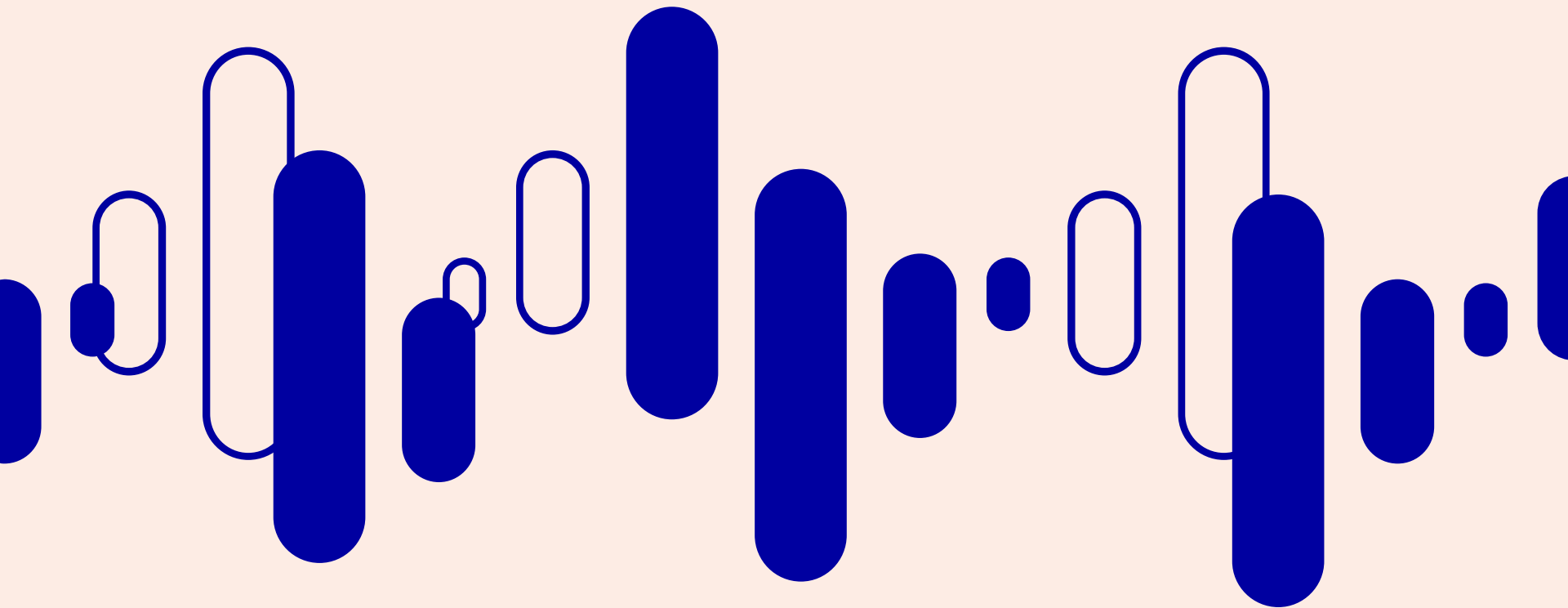


Workstream modelling purpose

The main purpose of the Work stream on data modelling is to deliver:

- A **stable, harmonized, extensible** BIRD input layer
 - Stable in the sense that the implementation of new frameworks shouldn't affect the core structure of the input layer
 - Harmonized so that all aspects of the input layer are modelled in a similar way
 - National Extensibility, i.e. the utility of the BIRD by an NCB / commercial banks in a specific country
 - And finally an adoption of the current input layer including transformation rules
- Modelling **guidelines / principles / best practices**
- Ensuring **consistency** regarding modelling activities in the subgroups

BIRD: Questions and Answers



Nordea

Thank you!

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