

# FINREP and COREP in a cross border Bank

Paris, September 30, 2008



# FINREP and COREP in a cross border Bank

midway with COREP and FINREP



# The challenge of X-Border regulatory



**Install tools and processes to report timely distinct consolidated and/or statutory FINREP and/or COREP instances to regulators in Belgium, Luxemburg, France, Netherlands, Germany, (Spain, Poland)**

## ➤ Challenges

- Combine complex and heterogeneous data sources into ONE production system
- Centrally manage strong local component in regulatory reports
- Cope with changing environment in limited time

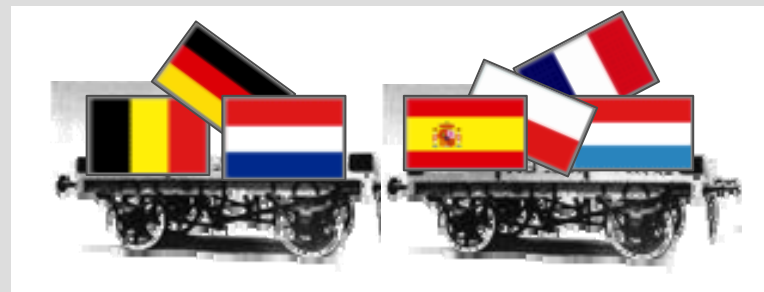
## ➤ Requirements

- Flexible and scalable solution
- Accessible technology
- Build technical and content knowledge “in house”

## We had a dream

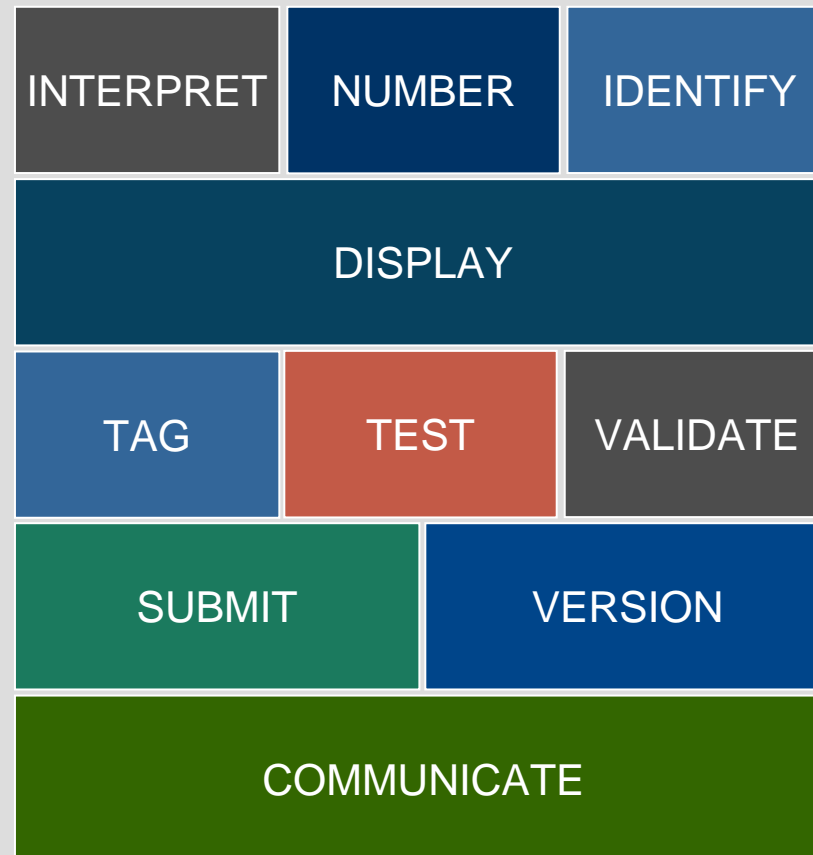


- Standard reporting framework suggested by CEBS
- Standard for electronic filing for scoped countries



- External reporting systems talk XBRL, internal reporting will follow swiftly

# X-border COMMON TRUNC





# X-border COMMON TRUNC

## ➤ CONTENT & LAY-OUT

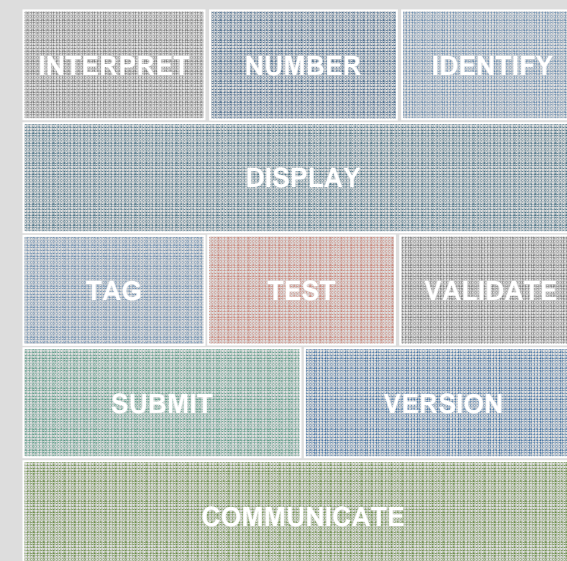
- location of element in table lay-out
- new element added
- elements removed
- codification/numbering of elements

## ➤ INTERPRETATION

- definition or calculation of a reported element
- clean - dirty value

## ➤ TAGGING

- XBRL-mapping of reported fact (p-, d-, decimals, ..)
- elements representing a formula (eg. a subtotal)
- elements not present in taxonomy via XML
- one schemaref, two schemarefs





# X-border COMMON TRUNC

## ➤ TESTING AND VALIDATION

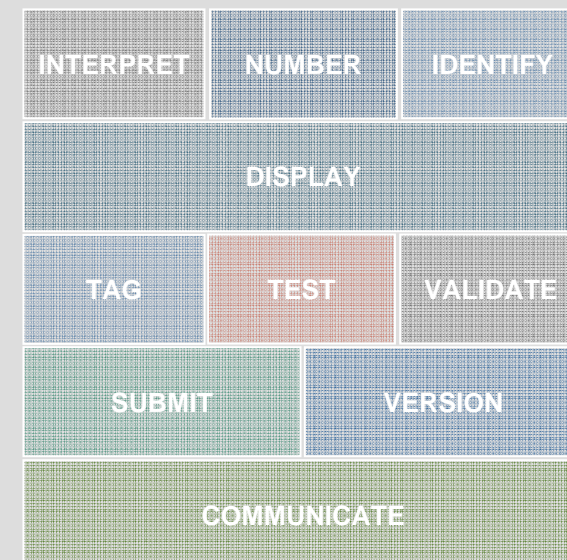
- Transparency of non-xbrl validation rules
- Calculation linkbases partially useful
- Tolerance margins
- Regulatory Feedback FF2P

## ➤ SUBMITTING

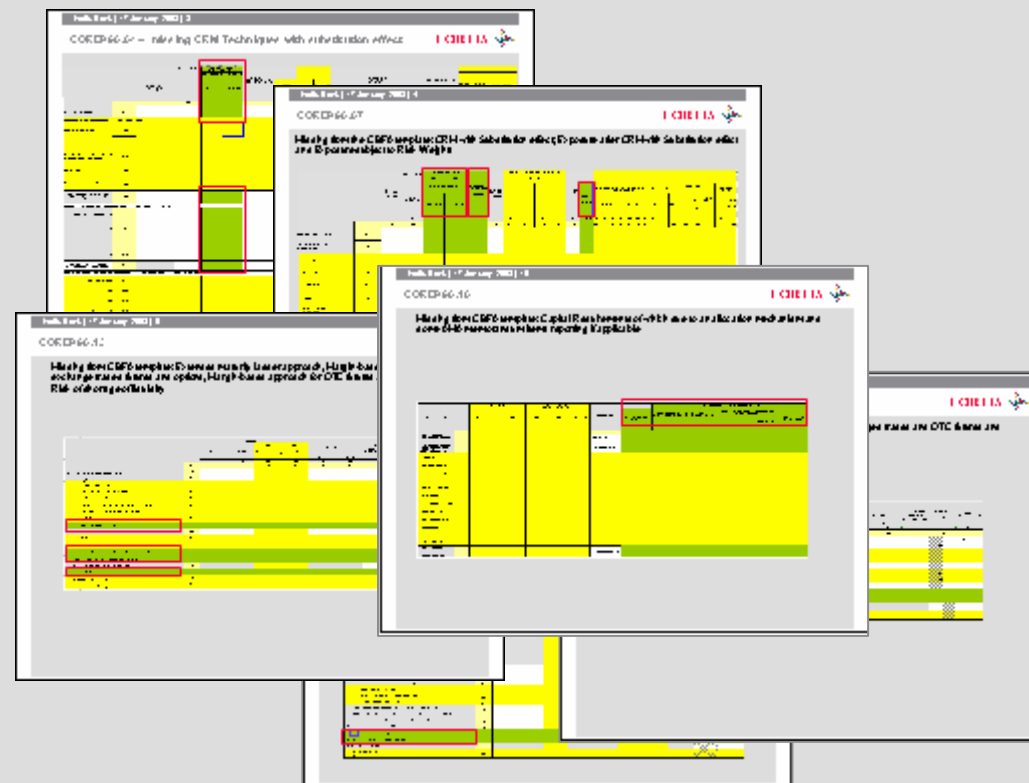
- Each regulator has another submission protocol (Same gateway is used for other (non-xbrl) reports)
- File name convention, rename .xbrl to .xml, embed instance in XML envelope, additional data (e.g. admin data), encrypt and digital signature

## ➤ VERSIONING AND COMMUNICATION

- Subscribe to online newsletters
- Find out via via
- Layout, taxonomy, validation rules, submission protocols, etc...
- English



# Exhibit 1: content & layout analysis COREP-BE versus COREP-LU







# Exhibit 1: content & layout analysis COREP-BE versus COREP-LU

- **BE: 8.941 elements**
  - 2.371 common elements
  - 6.570 BE elements
  
- **LU: 4.771 elements**
  - 2.371 common elements
  - 2.400 LU elements
  
- Common elements: 2.371

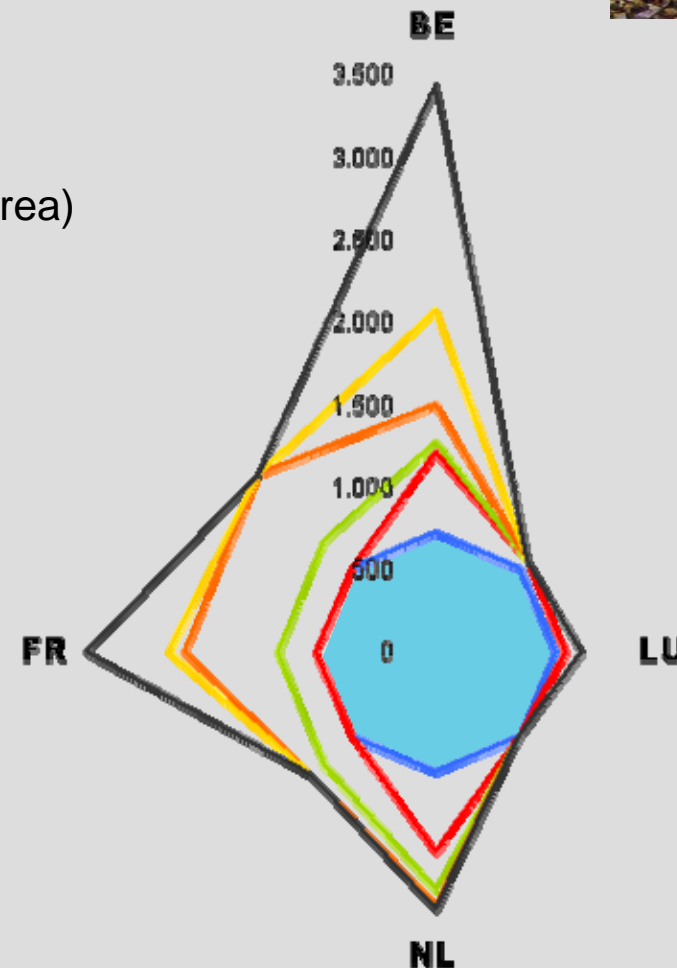
BE	BE_Totid	LU	LU_Totid
071010-000-C001	Control		
071010-000-C002	Control		
071010-000-C003	Control		
071010-000-C004	Control		
071010-000-C005	Control		
071010-000-C006	Control		
071010-000-C007	Control		
071010-000-C008	Control		
071010-000-C009	Control		
071010-000-C010	Control		
071010-000-C011	Control		
071010-000-C012	Control		
071010-000-C013	Control		
071010-000-C014	Control		
071010-000-C015	Control		
071010-000-C016	Control		
071010-000-C017	Control		
071010-000-C018	Control		
071010-000-C019	Control		
071010-000-C020	Control		
071010-000-C021	Control		
071010-000-C022	Control		
071010-000-C023	Control		
071010-000-C024	Control		
071010-000-C025	Control		
071010-000-C026	Control		
071010-000-C027	Control		
071010-000-C028	Control		
071010-000-C029	Control		
071010-000-C030	Control		
071010-000-C031	Control		
071010-000-C032	Control		
071010-000-C033	Control		
071010-000-C034	Control		
071010-000-C035	Control		
071010-000-C036	Control		
071010-000-C037	Control		
071010-000-C038	Control		
071010-000-C039	Control		
071010-000-C040	Control		
071010-000-C041	Control		
071010-000-C042	Control		
071010-000-C043	Control		
071010-000-C044	Control		
071010-000-C045	Control		
071010-000-C046	Control		
071010-000-C047	Control		
071010-000-C048	Control		
071010-000-C049	Control		
071010-000-C050	Control		
071010-000-C051	Control		
071010-000-C052	Control		
071010-000-C053	Control		
071010-000-C054	Control		
071010-000-C055	Control		
071010-000-C056	Control		
071010-000-C057	Control		
071010-000-C058	Control		
071010-000-C059	Control		
071010-000-C060	Control		
071010-000-C061	Control		
071010-000-C062	Control		
071010-000-C063	Control		
071010-000-C064	Control		
071010-000-C065	Control		
071010-000-C066	Control		
071010-000-C067	Control		
071010-000-C068	Control		
071010-000-C069	Control		
071010-000-C070	Control		
071010-000-C071	Control		
071010-000-C072	Control		
071010-000-C073	Control		
071010-000-C074	Control		
071010-000-C075	Control		
071010-000-C076	Control		
071010-000-C077	Control		
071010-000-C078	Control		
071010-000-C079	Control		
071010-000-C080	Control		
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071010-000-C082	Control		
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071010-000-C091	Control		
071010-000-C092	Control		
071010-000-C093	Control		
071010-000-C094	Control		
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071010-000-C102	Control		
071010-000-C103	Control		
071010-000-C104	Control		
071010-000-C105	Control		
071010-000-C106	Control		
071010-000-C107	Control		
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071010-000-C109	Control		
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071010-000-C116	Control		
071010-000-C117	Control		
071010-000-C118	Control		
071010-000-C119	Control		
071010-000-C120	Control		
071010-000-C121	Control		
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071010-000-C129	Control		
071010-000-C130	Control		
071010-000-C131	Control		
071010-000-C132	Control		
071010-000-C133	Control		
071010-000-C134	Control		
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071010-000-C144	Control		
071010-000-C145	Control		
071010-000-C146	Control		
071010-000-C147	Control		
071010-000-C148	Control		
071010-000-C149	Control		
071010-000-C150	Control		
071010-000-C151	Control		
071010-000-C152	Control		
071010-000-C153	Control		
071010-000-C154	Control		
071010-000-C155	Control		
071010-000-C156	Control		
071010-000-C157	Control		
071010-000-C158	Control		
071010-000-C159	Control		
071010-000-C160	Control		
071010-000-C161	Control		
071010-000-C162	Control		
071010-000-C163	Control		
071010-000-C164	Control		
071010-000-C165	Control		
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071010-000-C167	Control		
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071010-000-C169	Control		
071010-000-C170	Control		
071010-000-C171	Control		
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071010-000-C173	Control		
071010-000-C174	Control		
071010-000-C175	Control		
071010-000-C176	Control		
071010-000-C177	Control		
071010-000-C178	Control		
071010-000-C179	Control		
071010-000-C180	Control		
071010-000-C181	Control		
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071010-000-C183	Control		
071010-000-C184	Control		
071010-000-C185	Control		
071010-000-C186	Control		
071010-000-C187	Control		
071010-000-C188	Control		
071010-000-C189	Control		
071010-000-C190	Control		
071010-000-C191	Control		
071010-000-C192	Control		
071010-000-C193	Control		
071010-000-C194	Control		
071010-000-C195	Control		
071010-000-C196	Control		
071010-000-C197	Control		
071010-000-C198	Control		
071010-000-C199	Control		
071010-000-C200	Control		

Note: these numbers vary by Reported Entity and by scope through dynamic tables with typed or explicit dimensions



## Exhibit 2: content variances FINREP BE-LU-NL-FR

- Total number of elements in BLNF:
  - 727 common elements (inner blue area)
  - 1.983 unique elements
  - 3.146 shared elements
  
- Country breakdown:
  - BE: 3.442 elements
  - LU: 897 elements
  - NL: 1.570 elements
  - FR: 2.128 elements



# Exhibit 3: tagging variances FINREP BE-FR



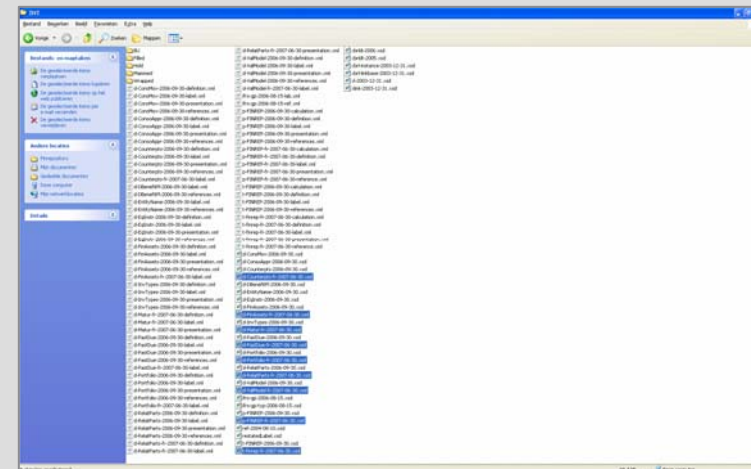
- BE extended modular FINREP taxonomy
  - DTS holds 484 files
    - of which: 169 schema.xsd
      - of which: 49 BE extensions
  - Modular taxonomy doesn't facilitate cross-template validation rules
  - New dimensions increase number of reported elements to 3.442 for FBB



# Exhibit 3: tagging variances FINREP BE-FR



- FR extended monolithic FINREP taxonomy
  - DTS holds 109 files
    - of which: 33 schema.xsd
      - of which: 9 FR extensions
  - One template taxonomy



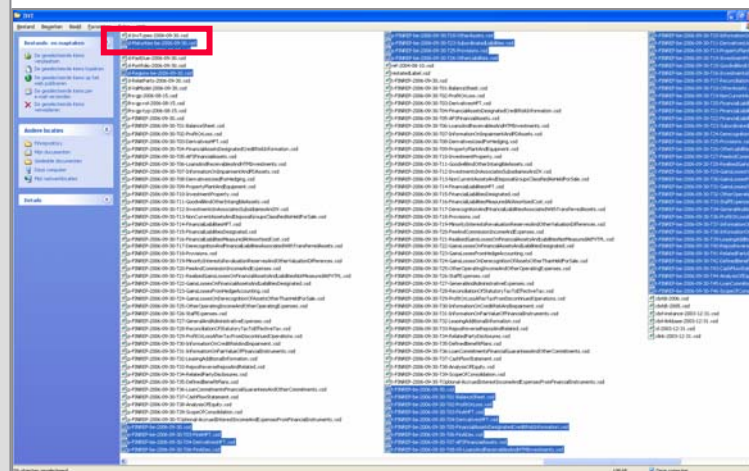


# Exhibit 3: tagging variances

## FINREP BE-FR

### Maturity dimension extension for BE

d-Maturities-be-2006-09-30.xsd

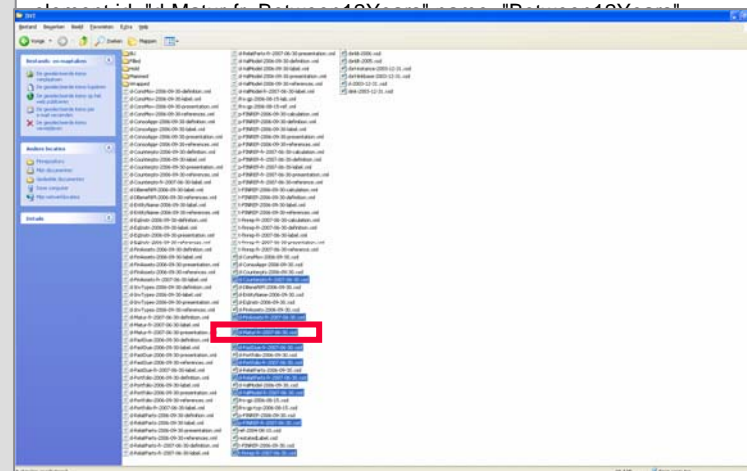


```

de_moreThanCurrentYearPlus10 type="xbrli:stringItemType"
substitutionGroup="xbrli:item" abstract="true" nillable="true"
xbrli:periodType="instant"/>
<element name="Perpetuals" id="d-Maturities-be_Perpetuals"
type="xbrli:stringItemType" substitutionGroup="xbrli:item" abstract="true"
nillable="true" xbrli:periodType="instant"/>
<element name="TotalMaturities" id="d-Maturities-be_TotalMaturities"
type="xbrli:stringItemType" substitutionGroup="xbrli:item" abstract="true"
nillable="true" xbrli:periodType="instant"/>
    
```

### Maturity dimension extension for FR

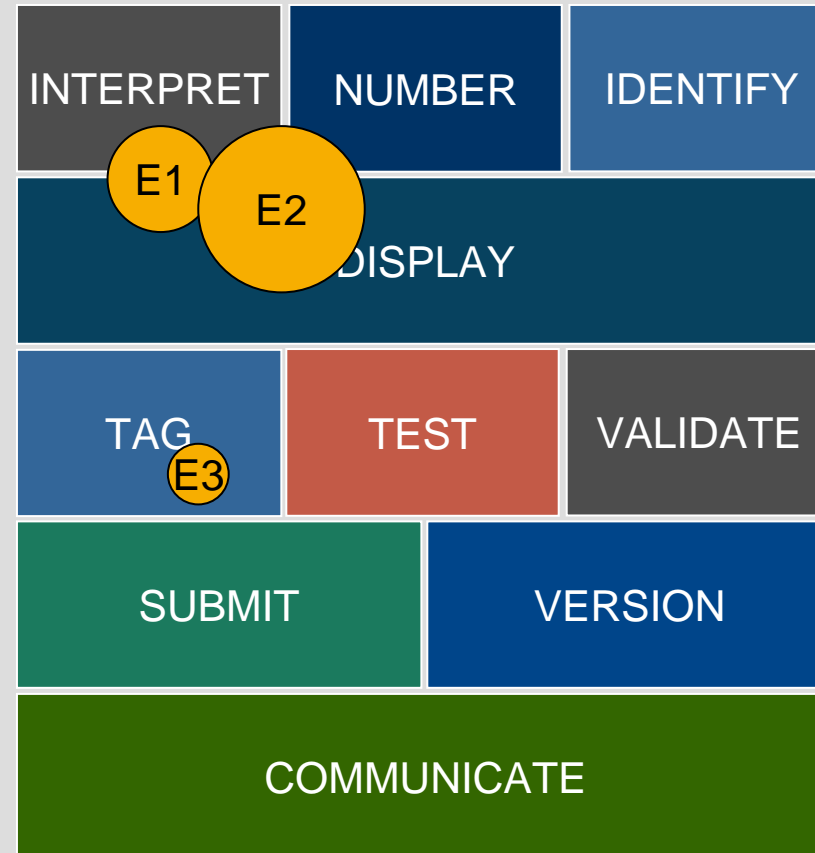
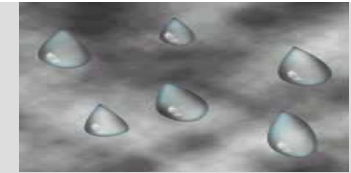
d-Matur-fr-2007-06-30.xsd



```

<element id="d-matur-fr_Over5years" name="Over5years" type="xbrli:stringItemType"
substitutionGroup="xbrli:item" xbrli:periodType="instant" abstract="true"
nillable="true" />
<element id="d-Matur-fr_TotalMaturities" name="TotalMaturities"
type="xbrli:stringItemType" substitutionGroup="xbrli:item" xbrli:periodType="instant"
abstract="true" nillable="true" />
<element id="d-Matur-fr_Undefined" name="Undefined" type="xbrli:stringItemType"
substitutionGroup="xbrli:item" xbrli:periodType="instant" abstract="true"
nillable="true" />
    
```

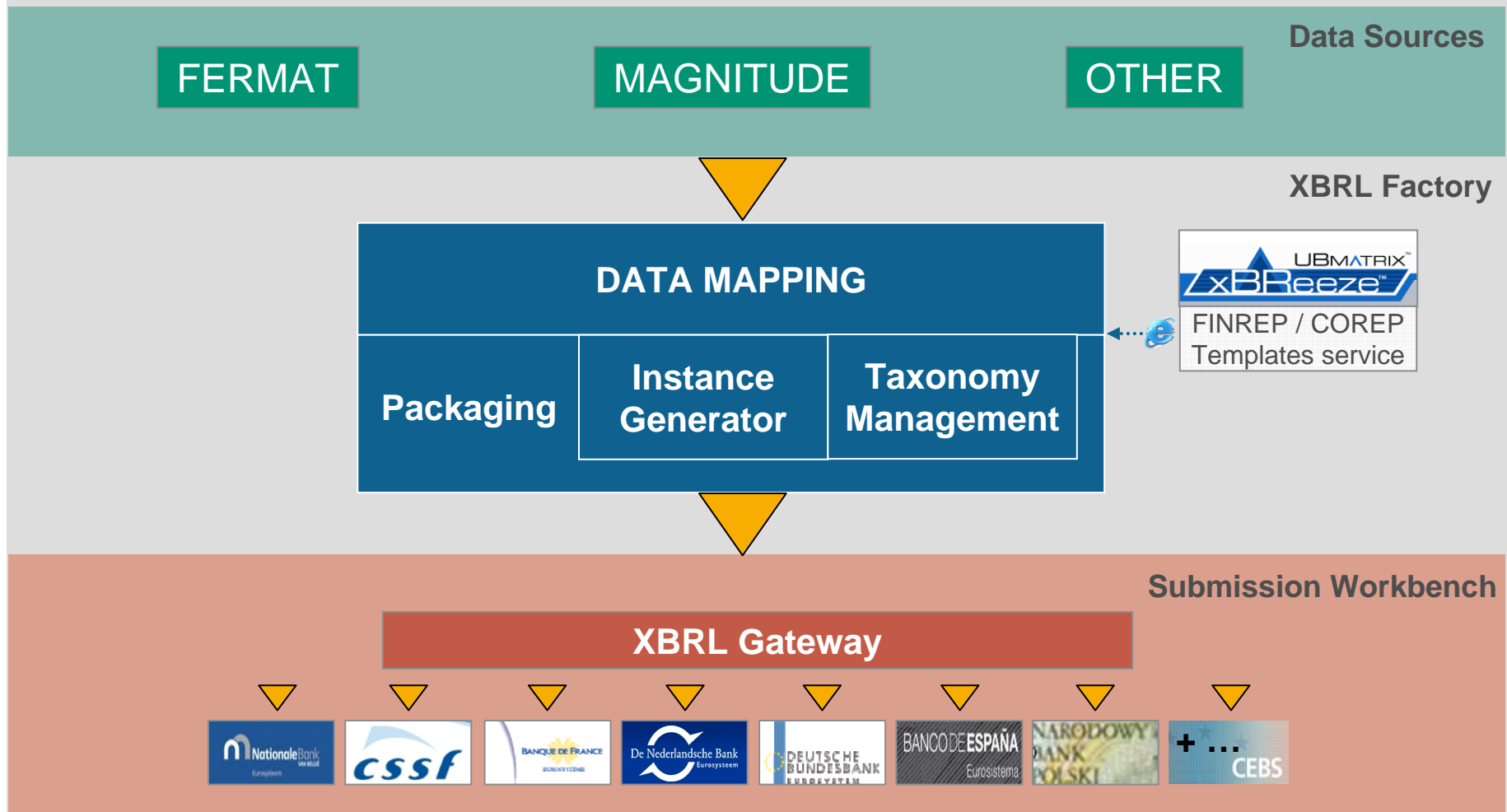
"instant"  
 "instant"  
 "instant"  
 "year"  
 "instant"  
 "ion"  
 "instant"  
 "instant"



# DATA COLLECTION & REPORTING



# Data flow





# Installed modules



	COREP		FINREP	
	SOLO	CONSO	SOLO	CONSO
Belgium - CBFA	XBRL	XBRL		XBRL
France - BdF		XBRL		XBRL
Luxembourg - CSSF	XBRL	XBRL	XBRL	XBRL
Nederland - DNB		XBRL		XBRL
Deutschland - BAFIN		XBRL		

Timeline labels: Q1 2008, Q3 2007, Q4 2007, Q1 2008, Q2 2008, Q2 2008

# Production planning

➤ COREP : 270 reports

LU 73

BE 94

DE 67

NL 36

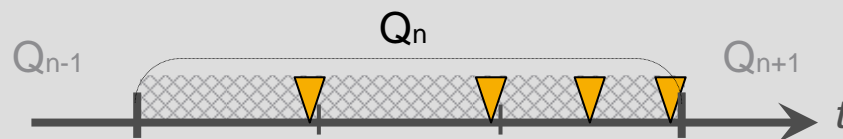
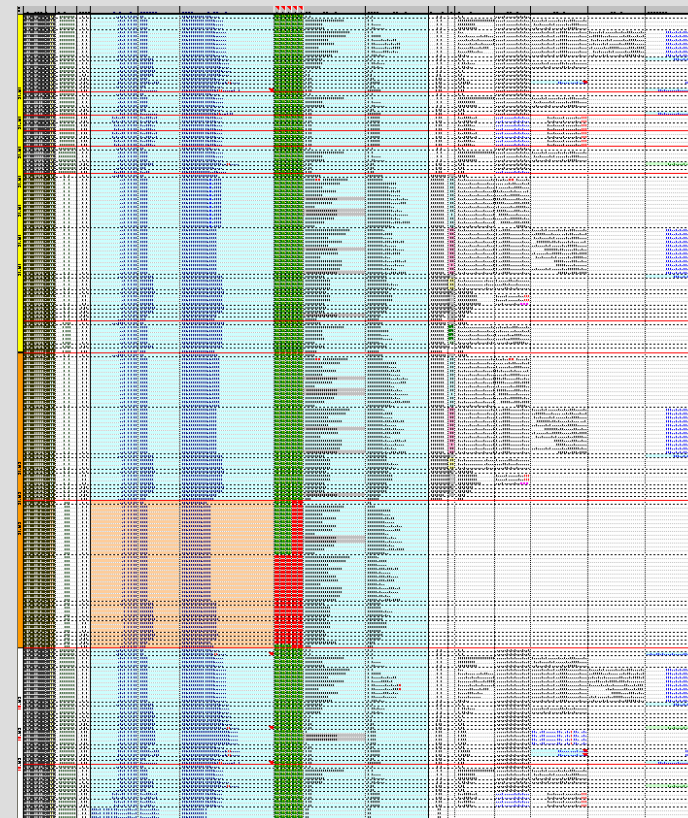
➤ FINREP : 258 reports

BE 149

FR 44

NL 34

LU 31

# FINREP

MAGNITUDE

OTHER

Data Sources

XBRL Factory

DATA MAPPING

PROCESSING ENGINE

FINREP Report Generator

AGU\_templates (Excel)

OLAP Cube



# FINREP

MAGNITUDE

OTHER

Data Sources

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FINREP Report Generator

AGU\_templates (Excel)

OLAP Cube



## DATA MAPPING

### Technical Mapping

### Functional Mapping

KEY ACCESS	SOURCE	Access Desc.	D_CA Category	D_AC Account	D_FL Flow	D_VT Value_Type	D_CL Collateral	COPY OF
01010009991000BTC	MAGNITUDE	CashAndBalancesWithCentralBanks	ACTUAL	M10001010	F999	NA	NA	NA
01010009991000BTC	MAGNITUDE	CashAndBalancesWithCentralBanks	ACTUAL	M10002010	F999	NA	NA	NA
01010009991000BTC	MAGNITUDE	CashAndBalancesWithCentralBanks	ACTUAL	M1103	F999	NA	NA	NA
01010009991000BTC	MAGNITUDE	CashAndBalancesWithCentralBanks	SCHEMA-A	M15031010	F999	VTSCH0002	CLSCH1010	NA
01010009991000BTC	MAGNITUDE	CashAndBalancesWithCentralBanks	SCHEMA-A	M15031010	F999	VTSCH0004	CLSCH1010	NA
01010009991000BTC	MAGNITUDE	CashAndBalancesWithCentralBanks	SCHEMA-A	M15031010	F999	VTSCH0008	CLSCH1010	NA
01010009991000BTC	MAGNITUDE	CashAndBalancesWithCentralBanks	SCHEMA-A	M15041010	F999	VTSCH0002	CLSCH1010	NA
01010009991000BTC	MAGNITUDE	CashAndBalancesWithCentralBanks	SCHEMA-A	M15041010	F999	VTSCH0004	CLSCH1010	NA
01010009991000BTC	MAGNITUDE	CashAndBalancesWithCentralBanks	SCHEMA-A	M15041010	F999	VTSCH0006	CLSCH1010	NA
01010009991000BTC	MAGNITUDE	CashAndBalancesWithCentralBanks	SCHEMA-A	M15041010	F999	VTSCH0008	CLSCH1010	NA
01010009991000BTC	MAGNITUDE	CashAndBalancesWithCentralBanks	SCHEMA-A	M25011010	F999	VTSCH0002	CLSCH1010	NA
01010009991000BTC	MAGNITUDE	CashAndBalancesWithCentralBanks	SCHEMA-A	M25011010	F999	VTSCH0004	CLSCH1010	NA
01010009991000BTC	MAGNITUDE	CashAndBalancesWithCentralBanks	SCHEMA-A	M25011010	F999	VTSCH0006	CLSCH1010	NA
01010009991000BTC	MAGNITUDE	CashAndBalancesWithCentralBanks	SCHEMA-A	M25021010	F999	VTSCH0002	CLSCH1010	NA
01010009991000BTC	MAGNITUDE	CashAndBalancesWithCentralBanks	SCHEMA-A	M25021010	F999	VTSCH0004	CLSCH1010	NA
01010009991000BTC	MAGNITUDE	CashAndBalancesWithCentralBanks	SCHEMA-A	M25021010	F999	VTSCH0006	CLSCH1010	NA

Functional Key	C/B/F/L/D	BE	FR	LU	NL
01010009991000BTC	C	QT0101-L7100-C005	ST0101-L0100-C005	QTB61-L001001000000000-C1	QTFR010T1_1-L01000000-C01

A_Descr	MARCUSKEY
Financial Asset	
B_Descr	
Cash and cash balances with central banks	
C_Descr	
No CEBS details	
D_Descr	
Total	
F_Descr	
Carrying amount	

Technical Mapping Table to translate raw data into functional keys.  
**(Magnitude → XBRL logical Key)**

Functional Mapping Table enables Fortis to use **one** common Technical mapping table **for all** FinRep reporting in the different countries.

**(Local Regulator Keys → XBRL-Logical key)**

# Lessons learned

- Creating the Technical Mapping table (Magnitude → Functional Key) is labour intensive and requires proper business knowledge
- Leverage on one centrally managed Technical Mapping table for different countries.
- Common trunc: only 727 entirely content-common cells for BE, NL, LU, FR
- Even tough common, variances may occur on definitions eg. between clean and dirty value

	C/B/F/L/D	Count	Description
Specific	B	1364	Specific for Belgium
	L	101	Specific for Luxemburg
	N	23	Specific for the Netherlands
	F	495	Specific for France
Common accross countries	C	727	Common in all countries
	BF	570	Common in Belgium and France
	BFL	2	Common in Belgium, France and Luxemburg
	BFN	230	Common in Belgium, France and the Netheralnds
	BL	59	Common in Belgium and Luxemburg
	BLN	4	Common in Belgium, Luxemburg and the Netherlands
	BN	486	Common in Belgium and the Netherlands
	FL	4	Common in France and Luxemburg
	FN	100	Comon in France and the Netherlands
	<b>T</b>	<b>4165</b>	<b>Total Elements in the FINREP B,L,N,F</b>

**FINREP**

**MAGNITUDE**

**OTHER**

Data Sources



XBRL Factory

**DATA MAPPING**

**PROCESSING ENGINE**



FINREP

MAGNITUDE

OTHER

Data Sources



XBRL Factory

DATA MAPPING

PROCESSING ENGINE

1. **Process A** : SQL Server
2. **Process B** : Report Generator
3. **Process C**: Data Analysis



**FINREP**

**MAGNITUDE**

"CONSO\_FIGURES\_XBRL Table"

**FRAS**

Export file

**Text files**

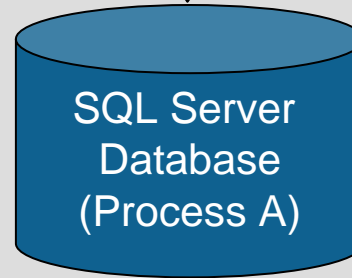
Parameter files

Data Sources

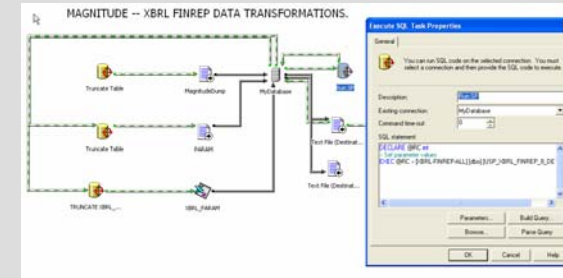
XBRL Factory

**Activities on SQL Server:**

1. Load the data of the data sources on a scheduled basis
2. Transform the data using queries Stored Procedures to calculate FinRep Facts for all countries
3. Connect with Report Generator to the output tables and run the processes that are already in use.



RPD SQL Server



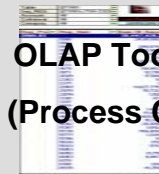
Connection from Local database

**Report Generator (process B)**

XBRL Regulatory Reporting



OLAP Tool (Process C)



**FINREP**

**MAGNITUDE**

"CONSO\_FIGURES\_XBRL Table"

**FRAS**

Export file

**Text files**

Parameter files

Data Sources

XBRL Factory

**Activities on SQL Server:**

1. Load the data of the data source on a scheduled basis
2. Transform the data using of Procedures to calculate Financials for different countries
3. Connect with Report Generator tables and run the process already in use.

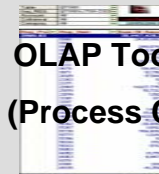
1. Load Functional Keys
2. Select Report parameters
3. Run AGU\_xBreeze template process

**Report Generator (process B)**

XBRL Regulatory Reporting



**OLAP Tool (Process C)**



# FINREP

## MAGNITUDE

"CONSO\_FIGURES\_XBRL Table"

## FRAS

Table	QT0101	
Key_REG	QT0101-L7130-C02	
Account	All	
Collateral	All	
Category	All	
Last RefreshDate: 28/05/2008 10:29		
Rep_Per	Rep_Unit	Sum Of Amount
2008.03		35,447,420,726
1000		24,181,168,739
1002		8
1066		248,674,533
1073		512,983,363
1127		3,843,785
1140		9,867
1231		3,267,785,267
1233		1
1479		191,453,847
1971		
2025		
2363		
2371		
2969		
2970		
2974		
3301		
3317		
3419		10,440
3696		1,438,459
4300		17,644,329
4665		1,420,191,826
5243		15,396,701
5362		20,000,000
5367		1,692,098
5735		766,809,072
5777		1,329,883
5796		11,868
5838		179,965
5933		570,357
5953		994
6052		31,751,142
6063		9,947,000
6170		385
6199		1,101,182
6535		41,356,591
<b>Grand Total</b>		<b>35,447,420,726</b>

## Text files

Parameter files

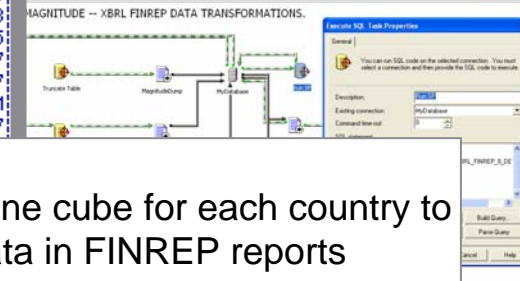
Data Sources

XBRL Factory

### Activities on SQL Server:

1. Load the data of the data sources on a scheduled basis
2. Transform the data using queries Stored Procedures to calculate FinRep Facts for all countries
3. Connect with Report Generator to the output tables and run the processes that are already in use.

Server



Create offline cube for each country to analyze data in FINREP reports

local database

## Report

XBRL Regulatory Reporting



LAP Tool  
process C)

**COREP**

Data Sources

**FERMAT**

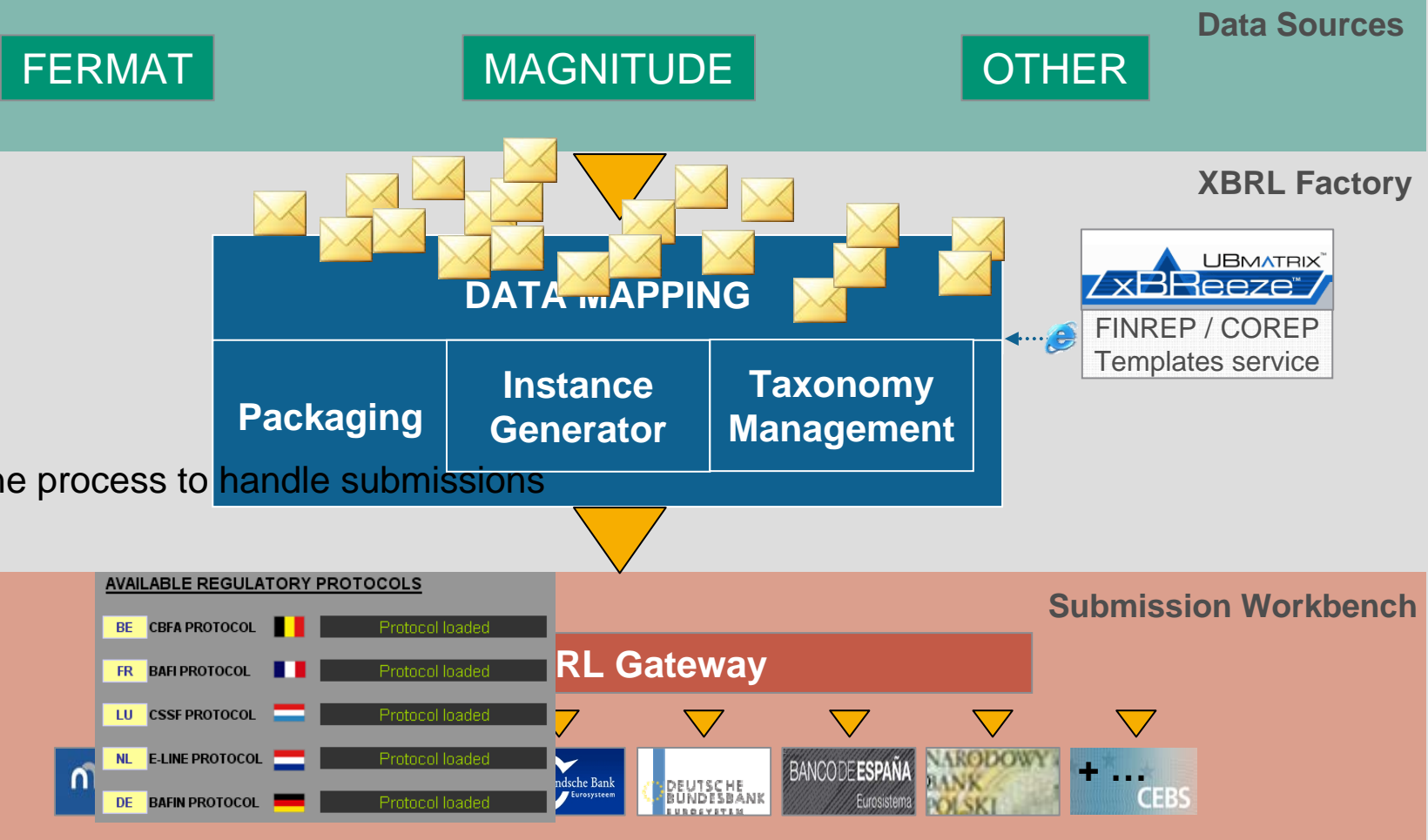
XBRL Factory

**MAPPING FERMAT // AGU\_templates**

**Report Generator**

**AGU\_templates (Excel)**

# Submission workbench



Thank you for your attention

