

RISIS

Research infrastructure for research
and innovation policy studies



SEVENTH FRAMEWORK
PROGRAMME



Consiglio Nazionale delle Ricerche

IRCFES

ISTITUTO di RICERCA sulla CRESCITA ECONOMICA SOSTENIBILE
INSTITUTE of RESEARCH on ECONOMIC SUSTAINABLE GROWTH

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PRESENTATION OF THE TECHNICAL STRUCTURE OF JOREP DATABASE

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What JOREP contains / 1

- JOREP database currently includes **97 programmes**
 - 44 are European initiatives;
 - 53 are bilateral programmes.
- JOREP project, started in 2010, defined a **set of descriptors characterising the joint R&D programmes** and the **organisations** leading different processes into the programmes.



What JOREP contains / 2

- Features of programmes are referred to **2009**, while **funding data are available from 2000**.
- Most of the descriptors are either **numeric** or in the form of a **closed list** with predefined categories.
- Free text *remarks* have been used to highlight exceptions and cases, which do not easily fit into the categories.

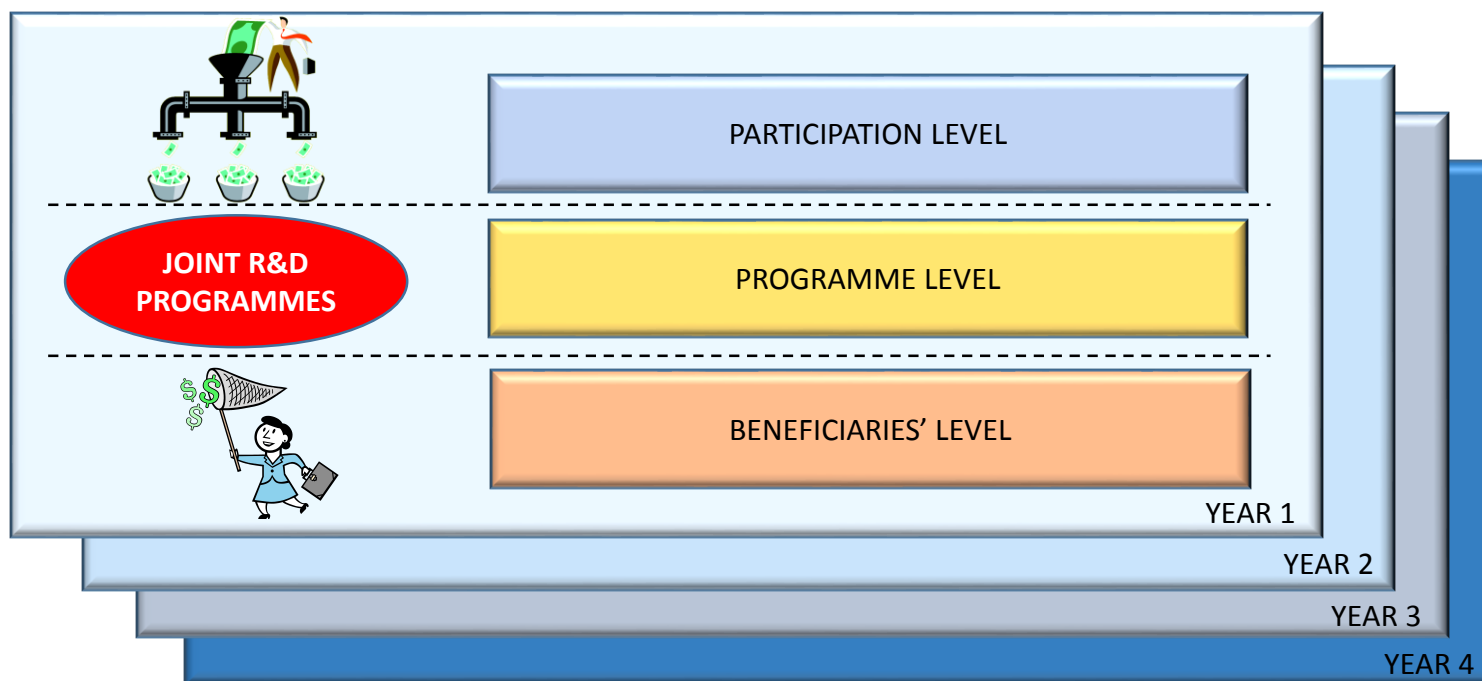


JOREP: a multilevel view to the joint R&D programmes

- The design of JOREP dataset is based on the nature of the main unit of analysis: **joint R&D programmes**.
- A joint R&D programme is a **multilevel entity**.
- Programmes can **change over time**: they can undergo specific transformations, potentially each year.



Joint R&D programmes: the main unit of analysis



- Internal changes within the programme along the years
- Participation and allocation dynamics might change



Joint R&D programmes, countries and funding agencies

- Panel data are stored – for each year – linking all the programmes to the **countries** participating/beneficiating and to **funding agencies involved**.

TYPES OF PARTICIPATION

A country
participates with a
**National funding
agency**, financing /
not financing the
programme

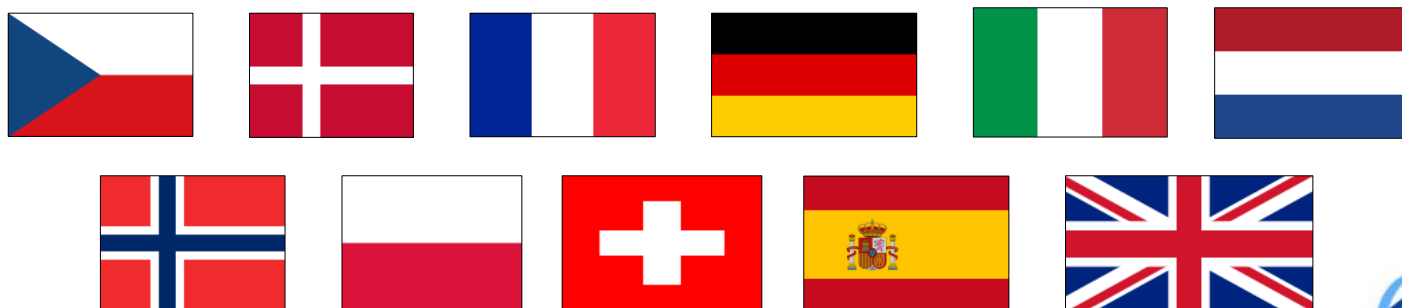
A country
participates with a
**supranational
funding agency**,
financing/not
financing the
programme

A country
participates ***without
a National funding
agency***, financing /
not financing the
programme



The 'Country' table

- The 'Country list' contains a simple list of countries (with their ISO country code).
- The geographical coverage of JOREP database includes only countries involved in the JOREP perimeter.
- Countries both as **source of funding** and **location of performers**.



The 'Funding agencies list'

- In JOREP a 'funding agencies list' contains a list of **186** formal organizations that manage functions for joint R&D programmes.
- **Background information for the analysis**

Funding agencies	Funding agency ID Country Acronym Name in official language Name of the agency in English Status of the agency Agency website Total budget 2009 Geographical level Agency classification Agency domain
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Funding agencies ID will be re-designed in a new format according to the harmonization of research infrastructures developed within RISIS project.



A relational model for a complex structure

- System for data management which integrates and allows **several level of analysis**.
- Due to the **multilevel structure** of the joint R&D programmes and considering the need to handle **panel descriptors**, data have been stored into distinct manageable tables within a **relational structure**



The pillars of JOREP

- **Five parent tables**, divided in:
 - two tables containing the **units of analysis** including
 - data about joint R&D programmes;
 - descriptors of the funding agencies;
 - three **auxiliary sets** containing
 - a list of countries *source of funding for/beneficiary of* the programmes;
 - a list of reference years, as a support for panel data collection;
 - an auxiliary list of currencies

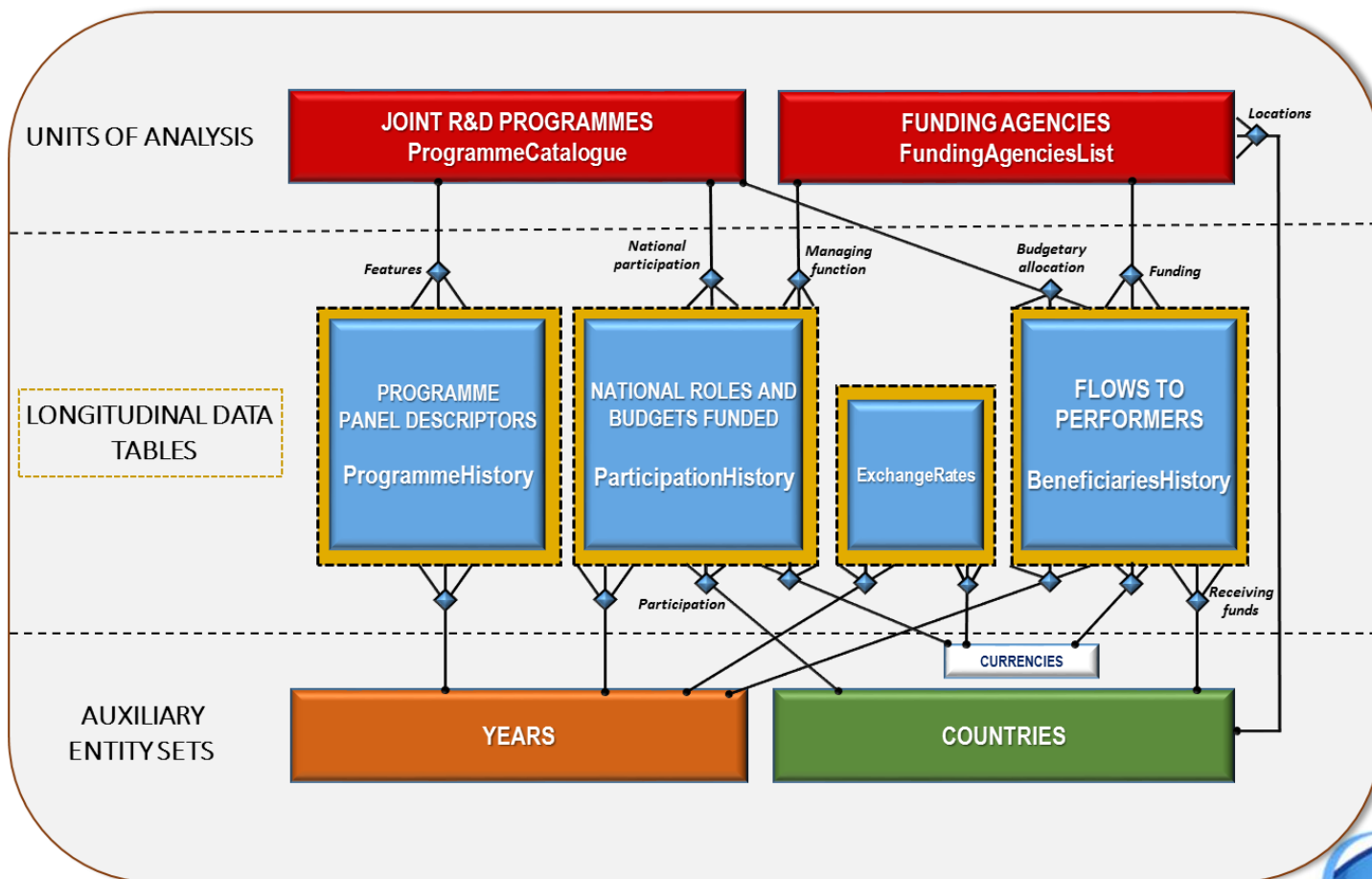


The bricks of JOREP

- **Four child-longitudinal data tables:**
 - **three junction-archives**
 - the internal characteristics of programmes;
 - the National participations in term of role and allocated budget;
 - the funding received by the beneficiaries of the programme
 - a **support panel archive** containing exchange rates



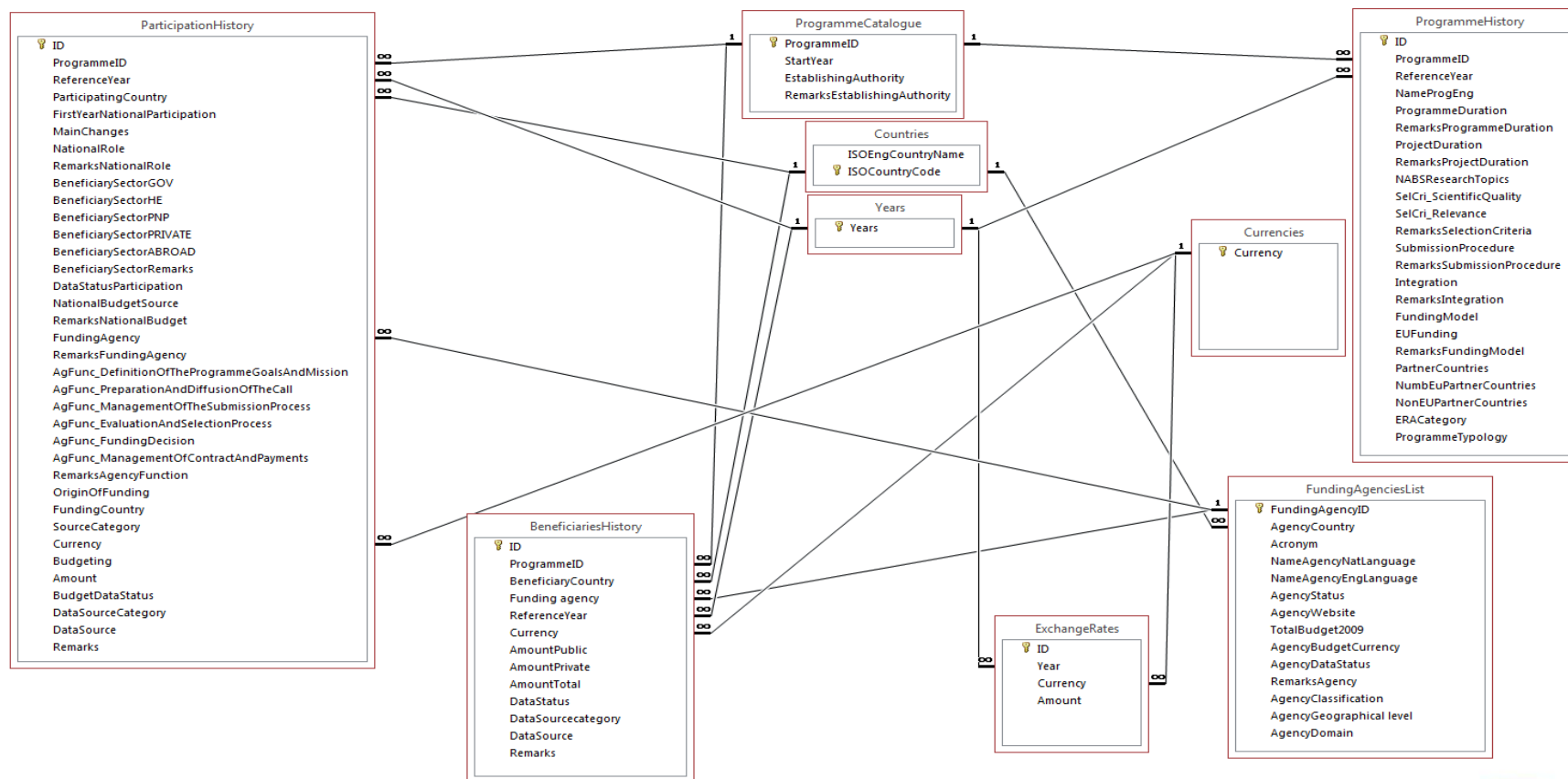
The 'bridge structure' of JOREP



A web of **one-to-many relationships (1:M)**



The dark side of JOREP

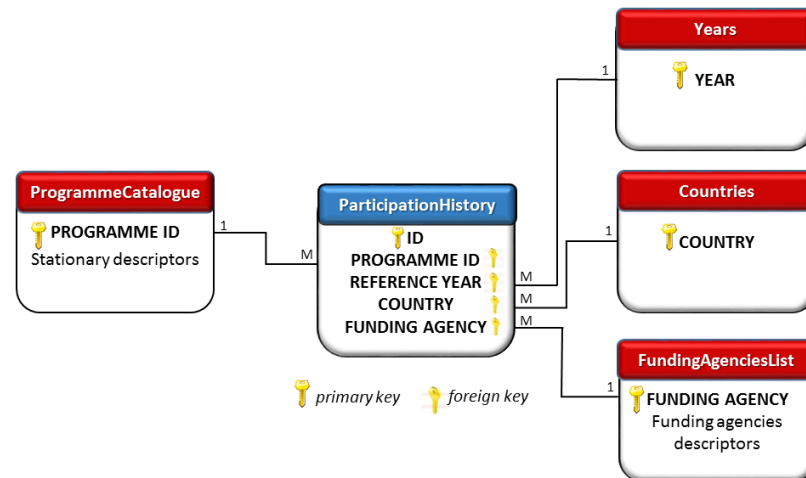
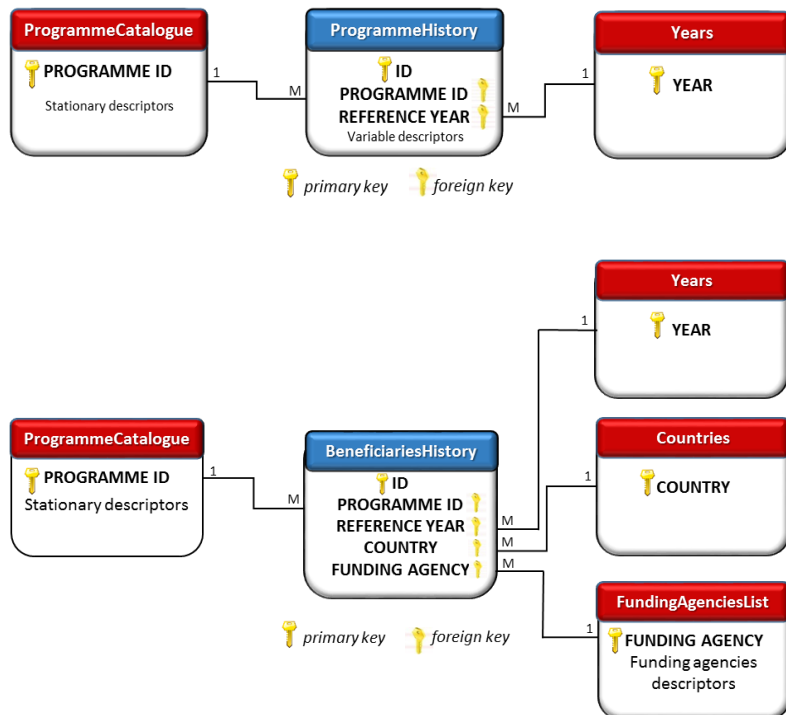


Primary keys on the 1 side and as foreign keys in the M side.



The 'Programme Catalogue' and its child tables

- Each record in the *ProgrammeCatalogue* is linked with functionally dependent rows of longitudinal data tables, named *ProgrammeHistory*, *ParticipationHistory*, *BeneficiariesHistory*.



ParticipationHistory and BeneficiariesHistory are linked also with the 'Funding agencies list'



Programme history

- The table about programme history contains only **descriptors at the level of the programme**, referred to 2009.
- Although now it contains only 2009 data, the table will keep track of the characteristics of joint R&D programmes in its by-year evolution.

<i>Descriptor</i>	<i>Level</i>	<i>Type</i>	
Name of the programme	Programme-level	Stationary	PARENT TABLE
Programme start year	Programme-level	Stationary	
Establishing authority	Programme-level	Stationary	
Programme duration	Programme-level	Variable	LONGITUDINAL TABLE
Project duration	Programme-level	Variable	
Research topics	Programme-level	Variable	
Selection criteria	Programme-level	Variable	
Submission procedure	Programme-level	Variable	
Funding model	Programme-level	Variable	
EU contribution	Programme-level	Variable	
Partner countries	Programme-level	Variable	
Mode of integration	Programme-level	Variable	
ERA category	Programme-level	Variable	
Programme type	Programme-level	Variable	



Descriptors at the level of the programme / 1

- **Programme duration.** (*Limited/Periodic/Regular*)
- **Project duration.** (*Typical duration of projects funded*).
- **Research topics.** *The classification refers to the socio-economic objective of the programme, not to the actual research content.*
- **Selection criteria** This descriptor provides synthetic information on the importance of the two following criteria in the selection of projects:
 - Scientific quality.
 - Relevance to strategic or economic priorities.
- **Submission procedure.** (*Single entry point/Parallel submission*)



Descriptors at the level of the programme / 2

- **Funding model.** (*Common pot/Common pot with return rules/National pot/Mixed-mode*).
- **EU contribution.** (*yes/no*).
- **Partner countries**
- **Mode of integration.** (*Agency, coordination, delegation, independent selection*).
- **ERA category.** This descriptor provides a general categorization of joint programmes in terms of their relationships with the European research area
- **Programme type.** The main organizational settings of joint programmes and is based on a set of other descriptions.



National participation to the programme

- *ParticipationHistory* collects data on the national participation of JOREP countries to the joint R&D programmes from the catalogue for each reference year.

<i>Descriptor</i>	<i>Level</i>
Reference year	Participation-level
Participating country	Participation-level
Year of first country participation	Participation-level
National role	Participation-level
Potential beneficiary sectors	Participation-level
Funding agency	Participation-level
Agency functions	Participation-level
Funding source	Participation-level
Source category	Participation-level
Currency	Participation-level
Budgeting	Participation-level
Amount	Participation-level
Data source category	Participation-level
Data source	Participation-level



Descriptors at the participation level / 1

- **National role.** (*Full participation / Full participation with restricted funding / Limited participation*)
- **Potential beneficiary sectors.** This descriptor identifies the performing sectors that are legally entitled to get funding from the programme.
- **Funding agency.** The funding agency receiving the funding amount specifically for this programme.
- **Agency functions** For each agency, indication is requested if it manages at least one of following functions:
 - Definition of the programme goals and mission.
 - Preparation and diffusion of the call.
 - Management of the submission process.
 - Evaluation and selection process.
 - Decision on which projects to fund.
 - Management of contract and payments.



Descriptors at the participation level / 2

- **Origin of funding.** The exact origin of the budget, including the European Union budget, the national budgets and regional budgets.
- **Funding country.** The national state (or EU) from where funding originates
- **Budgeting.** The type of budgeting conforming to the following categories:
 - Specific budget line
 - Earmarked budget
 - Delegated budget
- **Amount.** The funding for the whole year expressed in currency units.



Datasheet view of Beneficiaries' History

- In the beneficiaries' history table data are collected by year for the countries of the performing organization and disaggregated by funding agency managing resources for the programme.

ID	Programme	Beneficiary	Funding age	ReferenceY	Currency	AmountPub	AmountPriv	AmountTot	DataStatus	DataSource	DataSource
199	PEU006	DE	EN-06 - Consor	2009	EUR	0	0	0	Available	Other source	Programme w
200	PEU006	FR	EN-06 - Consor	2008	EUR	0	0	0	Available	Other source	Programme w
201	PEU006	FR	EN-06 - Consor	2009	EUR	0	0	0	Available	Other source	Programme w
202	PEU006	IT	EN-06 - Consor	2008	EUR	0	0	0	Available	Other source	Programme w
203	PEU006	IT	EN-06 - Consor	2009	EUR	0	0	0	Available	Other source	Programme w
204	PEU006	NL	EN-06 - Consor	2008	EUR	0	0	0	Available	Other source	Programme w
205	PEU006	NL	EN-06 - Consor	2009	EUR	0	0	0	Available	Other source	Programme w
206	PEU006	UK	EN-06 - Consor	2008	EUR	0	0	0	Available	Other source	Programme w
207	PEU006	UK	EN-06 - Consor	2009	EUR	0	0	0	Available	Other source	Programme w
208	PEU006	FR	FR-08 - ANSES	2008	EUR	0	0	0	Available	Information fr	Contact with tl
209	PEU006	FR	FR-08 - ANSES	2009	EUR	119.392	0	119.392	Available	Information fr	Contact with tl
210	PEU006	NL	NL-14 - RIVM	2008	EUR	0	0	0	Available	Information fr	Tom van Teune
211	PEU006	NL	NL-14 - RIVM	2009	EUR	0	0	0	Available	Information fr	Tom van Teune
212	PEU006	UK	UK-06 - NERC	2008	Not applicable	0	0	0	Available	Not applicable	Not applicable
213	PEU006	UK	UK-06 - NERC	2009	GBP	1.000.000	0	1.000.000	Available	Information fr	NERC Grants d
214	PEU007	DE	DE-07a - PTJ	2006	EUR	0	0	0	Available	Information fr	PTJ
215	PEU007	DE	DE-07a - PTJ	2007	EUR	0	0	0	Available	Information fr	PTJ



Descriptors at the beneficiaries' level

- **Beneficiary country.** Country the funding amount refers to.
- **Funding agency.** The name of the funding agency the funding originates from.
- **Currency.** The national currency used. Standard ISO currency codes is used.
- **Amount.** For each year, the volume of funding transferred to public and private beneficiaries.



Overview on data-type of JOREP descriptors

DIMENSION	VARIABLES	LEVEL	DATA TYPE
Joint R&D Programme	Programme ID	Programme-level	Code
	Name of the programme	Programme-level	Short text
	Programme start year	Programme-level	Closed list
	Establishing authority	Programme-level	Short text
	Programme duration	Programme-level	Closed list
	Project duration	Programme-level	Closed list
	Research topics	Programme-level	Closed list
	Selection criteria	Programme-level	Scale (Numeric)
	Submission procedure	Programme-level	Binary
	Funding model	Programme-level	Closed list
	EU contribution	Programme-level	Binary
	Partner countries	Programme-level	Short list
	Mode of integration	Programme-level	Closed list
	ERA category	Programme-level	Closed list
	Programme type	Programme-level	Closed list
	Reference year	Participation-level	Closed list
	Participating country	Participation-level	Closed list
	Year first country participation	Participation-level	Closed list
	National role	Participation-level	Closed list
	Potential beneficiary sectors	Participation-level	Closed list
	National budget source	Participation-level	Short text
	Funding agency	Participation-level	Code
	Agency functions	Participation-level	Closed list
	Funding source	Participation-level	Short text
	Source category	Participation-level	Closed list
	Currency	Participation-level	Short text
	Budgeting	Participation-level	Short text
	Amount	Participation-level	Numeric
	Data source category	Participation-level	Short text
	Budget data source	Participation-level	Short text
	Reference year	Beneficiary-level	Closed list
	Beneficiary Country	Beneficiary-level	Closed list
	Funding Agency	Beneficiary-level	Closed list
	Currency	Beneficiary-level	Short text
	Amount	Beneficiary-level	Numeric
	Data source category	Beneficiary-level	Short text
	Data source	Beneficiary-level	Short text

- Most of descriptors in JOREP are in the form of a **closed list** with predefined categories.
- **Numeric data** are also present in order to follow the funding flows



Summing up / 1

- Life of joint R&D programmes extends over time, carrying out specific transformations, occurring potentially **each year** and **over more levels**.
- JOREP was built as a **relational database model** in order to better account for the storage and visualization of time-related programme data distributed over more levels.



Summing up / 2

- Therefore, the sets of data refer to **panel descriptors**, placed at the same **level of the programme** as well as concerning attributes placed at **participation level** and at **beneficiaries' level**.
- JOREP contains both **qualitative and quantitative descriptors**. The combination of these descriptors characterise the organizational forms of joint R&D programmes, the models of integration, the networks of collaboration; identify the flows of funding... and so on.

