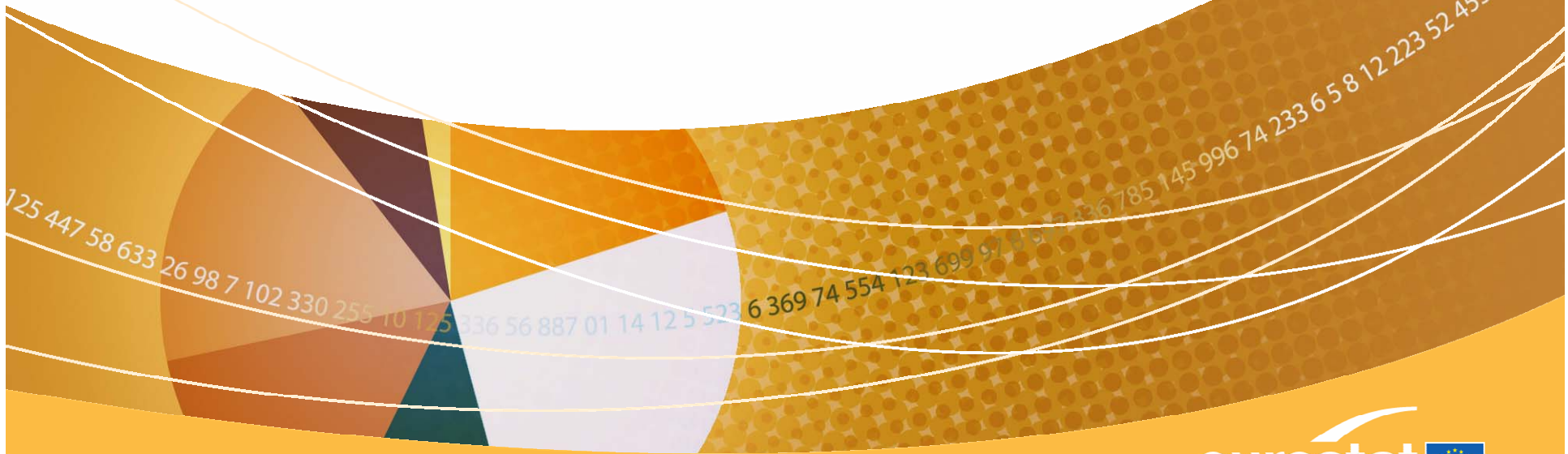


Dissemination of Census data 2011 through the SDMX Hub

Nadezhda Vlahova, Marco Pellegrino - Eurostat



The European Census Hub: key issues

- Dissemination of the data from the 2011 population and housing censuses in the European Union
- Massive amount of data produced and controlled by Member States
- Comparable data, structured according to agreed “hypercubes”: harmonised concepts and definitions (Census Regulation)
- Easy access to detailed census data (advanced functionalities)
- Easy to use: flexible tabulation of data within a hypercube
- High accessibility of data and metadata

EU Census: Implementing measures

- Regulation (EC) 763/2008 on population and housing censuses authorises the European Commission to adopt implementing measures on:
 - technical specifications of the topics and their breakdown (Regulation (EC) 1201/2009)
 - programme of the statistical data and metadata to be transmitted to Eurostat (Regulation (EU) 519/2010)
 - quality reporting and technical format of data transmission (Regulation (EU) 1151/2010)

Technical format for data transmission

■ Article 6 of Regulation (EU) 1151/2010

- Member States shall transmit the required data conforming to the data structure definitions and related technical specifications provided by the Commission (Eurostat)

– The technical format to be used for the transmission of data and metadata for the reference year 2011 shall be the Statistical Data and Metadata eXchange (SDMX) format

– Member States shall store until 1 January 2025 the required data and metadata for any later transmission requested by the Commission (Eurostat)

The Hub is:

- 60 DSDs built on SDMX 2.0 (standard concepts and codes) and in use for 31 countries of the European Statistical System
- data dissemination portal based on SDMX data model
 - communicating with data providers via SDMX Web Service
- no data processing (no editing or aggregation)
- additional reusable modules for
 - management of territorial units (NUTS/LAU)
 - handling structural metadata in SDMX format
- innovative user interface allowing user to extract data by starting from the statistical concept
- Tests on-going: started with dummy data and sample hypercube, now to continue with real hypercubes
- Member States status: 22 up and running

Example: DSD for Table 6 (Marital Status)

No ⁽¹⁾	Total ⁽²⁾	Breakdowns ⁽³⁾							
6.	Total population ⁽⁴⁾	GEO.L.	SEX.	FST.H.	LMS.	CAS.L.	POB.M.	COC.M.	AGE.M.
6.1.		GEO.L.	SEX.	FST.H.	LMS.				AGE.M.
6.2.		GEO.L.	SEX.	FST.H.	LMS.	CAS.L.	POB.M.		
6.3.		GEO.L.	SEX.	FST.H.	LMS.	CAS.L.		COC.M.	
6.4.		GEO.L.	SEX.	FST.H.		CAS.L.			AGE.M.
6.5.		GEO.L.	SEX.	FST.H.			POB.L.		AGE.M.
6.6.		GEO.L.	SEX.	FST.H.				COC.L.	AGE.M.

Which data for which geographical area?

Topics required for all geographical levels down to Local Administrative Units (LAU = municipalities)

Population topics

Sex	SEX
Age	AGE
Legal marital status	LMS
Country/place of birth	POB
Country of citizenship	COC
Place of usual residence - one year prior to the census	ROY
(Size of the) Locality	LOC
Household status	HST
Type of private household	TPH
Size of private household	SPH
Family status	FST
Type of family nucleus	TFN
Size of family nucleus	SFN

Housing topics

Occupancy status of conventional dwellings	OCS
Number of occupants	NOC
Useful floor space and/or Number of rooms	UFS/NOR
Density standard	DFS/DRM
Dwellings by type of building	TOB
Dwellings by period of construction	POC
Type of living quarters	TLQ

Which data for which geographical area?

Topics required for aggregated geographical levels NUTS 2, NUTS 1 and nation

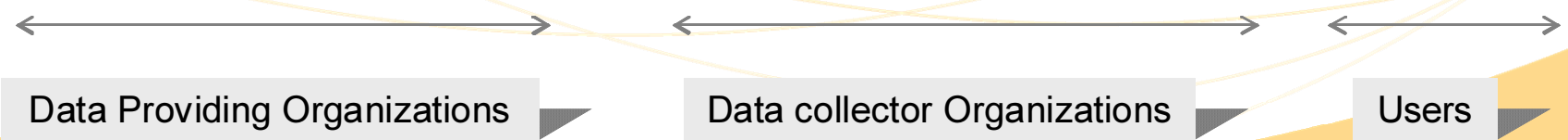
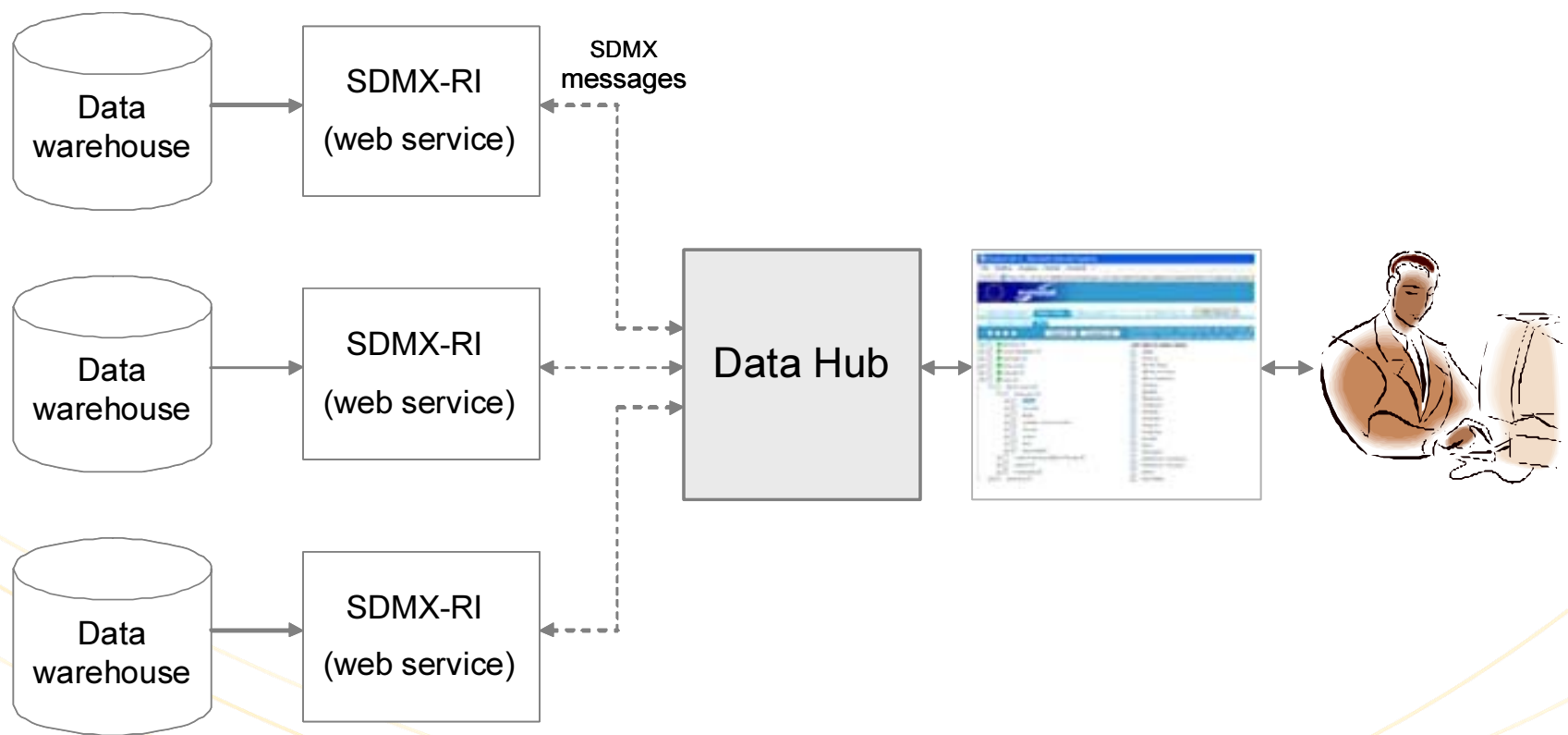
Population topics

Year of arrival in the country	YAE / YAT
Educational attainment EDU	
Location of place of work	LPW
Current activity status	CAS
Occupation	OCC
Industry	IND
Status in employment	SIE
Tenure status of households	TSH

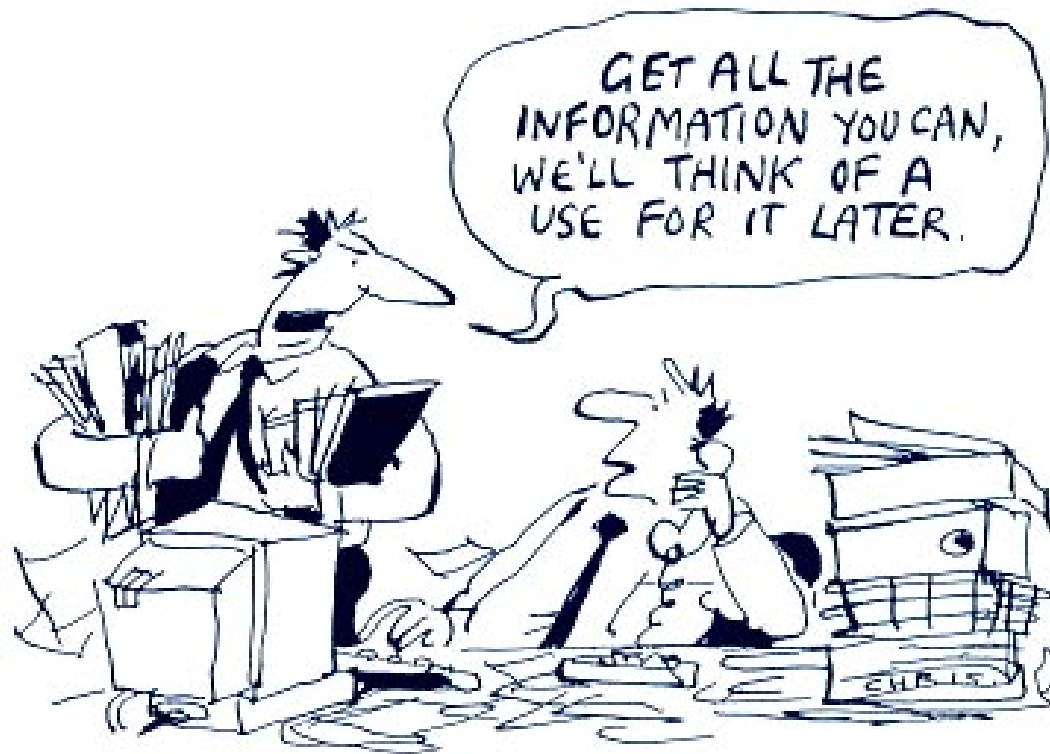
Housing topics

Housing arrangements	HAR
Type of ownership (of dwellings)	OWS
Water supply system	WSS
Toilet facilities	TOI
Bathing facilities	BAT
Type of heating	TOH

The components



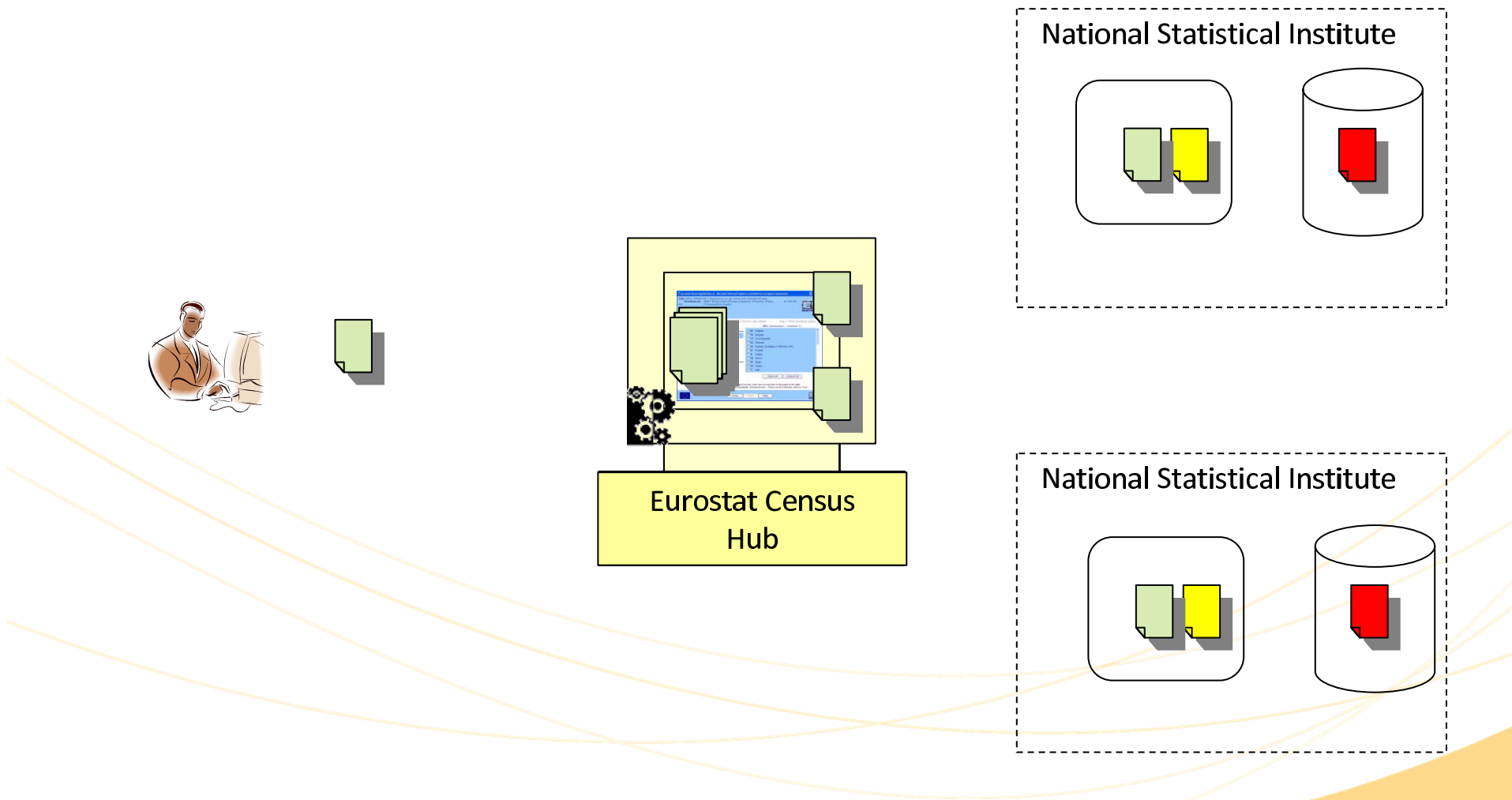
The Hub: facilitating access to a massive amount of data produced and controlled by Member States



Through the SDMX Hub, a data user can...

- Use single Census Data “dissemination point”
- Use multilingual graphical user interface
- Browse the Hub to define a dataset of interest, navigating via structural metadata:
 - Select hypercube or search by topic (filters)
 - Select data (level of detail, breakdowns)
 - Select layout (axes)
- View a table
- Save a query
- Export a file (CSV, Excel, SDMX-ML)

How the Hub works



CENSUS HUB - HC06

Date of Extraction : 11.04.2011 15:56:14

Last updates :

Malta (Simulated)	(HC Note)	(answer ratio)	125 ms	11.04.2011 15:56:14
Poland		(answer ratio)	266 ms	11.04.2011 15:56:14
Portugal		(answer ratio)	3172 ms	11.04.2011 15:56:14
Romania (Simulated)		(answer ratio)	16 ms	11.04.2011 15:56:14
Slovakia		(answer ratio)	16 ms	11.04.2011 15:56:14

Country of citizenship	Total
Family status	Total
Age	Total
Legal marital status	Total
Country/place of birth	Total
Sex	Total
Time period or range	Year 2001
Current activity status ▶	Total
Geographical area ▼	
Malta	7043 r
Polska	5533
Portugal	5533
Romania	51804

<http://193.109.72.200:8080/CensusHub2/>



Clear selection

Your selection

- + Data about persons
- + Data about private households
- + Data about families
- + Data about living quarters and dwellings

Selected Hypercube No Hypercube selected.

Dimensions: None

- Geography: Nation + Regions NUTS 1, 2



Clear selection

Your selection

- Data about persons
 - Geography
 - Population at their place of residence: Nation
 - Population at their place of residence: NUTS 2+
 - Population at their place of residence: NUTS 3+
 - Population at their place of residence: Municipalities
 - Population at their place of work: NUTS 2+
 - Residence one year before census
 - Persons working abroad
 - Size of the locality
 - Sex
 - Age
 - Broad age groups
 - Five-year age groups
 - Single ages
 - Legal marital status
 - Household status
 - Major groups
 - Detailed
 - Family status

Selected Hypercube

Dimensions:

- Geography: Nation + Regions NUTS 1, 2
 - Households
 - People in households
 - Marital status
 - Marital status, Age
 - Marital status, Activity status, Country of birth
 - Marital status, Activity status, Citizenship
 - Activity status, Age
 - Country of birth, Age
 - Citizenship, Age
 - Education
 - Education, Age
 - Education, Activity status, Country of birth
 - Education, Activity status, Citizenship
 - Activity status, Age
 - Country of birth, Age
 - Citizenship, Age
 - Status in employment
 - Status in employment, Age

1. Find Table ▼

2. Specify Table Dimensions ▼

3. Lay Out Table ▼

4. View Table ▼

5. Download Table ▼

Clear selection

Your selection

- Data about persons
 - Geography
 - Population at their place of residence: Nation
 - Population at their place of residence: NUTS 2+
 - Population at their place of residence: NUTS 3+
 - Population at their place of residence: Municipalities
 - Population at their place of work: NUTS 2+
 - Residence one year before census
 - Persons working abroad
 - Size of the locality
 - Sex
- Age
 - Broad age groups
 - Five-year age groups
 - Single ages

Selected Hypercube Country of birth [HC23-2] ⓘ

Dimensions: GEO, TIME, LPW, SEX, AGE, EDU, POB

- Geography: Nation + Regions NUTS 1, 2
 - Employment
 - People working abroad
 - Occupation
 - Occupation
 - Country of birth
 - Citizenship
 - Industry
 - Industry
 - Country of birth
 - Citizenship



1. Find Table | 2. Specify Table Dimensions | 3. Lay Out Table | 4. View Table | 5. Download Table



GEO | TIME | SEX | AGE | LMS | FST | CAS | POB | COC



Select All | Deselect All

Topic Geographical area: 0 out of 473 categories are selected.
Hypercube: 0 out of 105369264 cells are selected.

Web service available
Web service unavailable
Web service available only for reduced hypercubes

Search Geographical

- Österreich
- Belgique-België
- Bulgaria
- Schweiz/Suisse/Svizzera
- Kypros
- Ceska Republika
- Deutschland
- Danmark
- Eesti
- España
- Suomi / Finland
- France
- Ellada
- Magyarország
- Ireland
- Ísland
- Italia



GEO=Geographical area (3 cells selected)

AGE=Age (1 cells selected)

CAS=Current activity status (1 cells selected)

COC=Country of citizenship (1 cells selected)

FST=Family status (1 cells selected)

LMS=Legal marital status (1 cells selected)

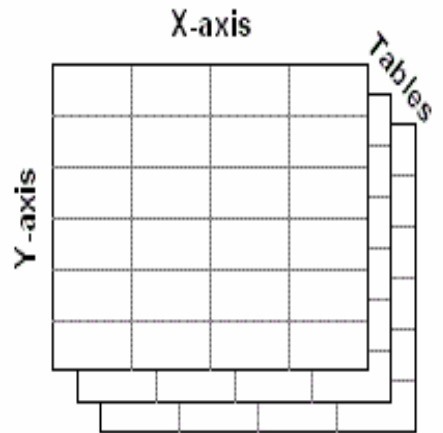
POB=Country/place of birth (1 cells selected)

SEX=Sex (1 cells selected)

TIME=Time period or range (1 cells selected)

GEO ▼

AGE ▼



Number of tables: 1

CAS ▼

COC ▼

FST ▼

LMS ▼

POB ▼

SEX ▼

TIME ▼



CENSUS HUB - HC06

Date of Extraction : 11.04.2011 15:56:14

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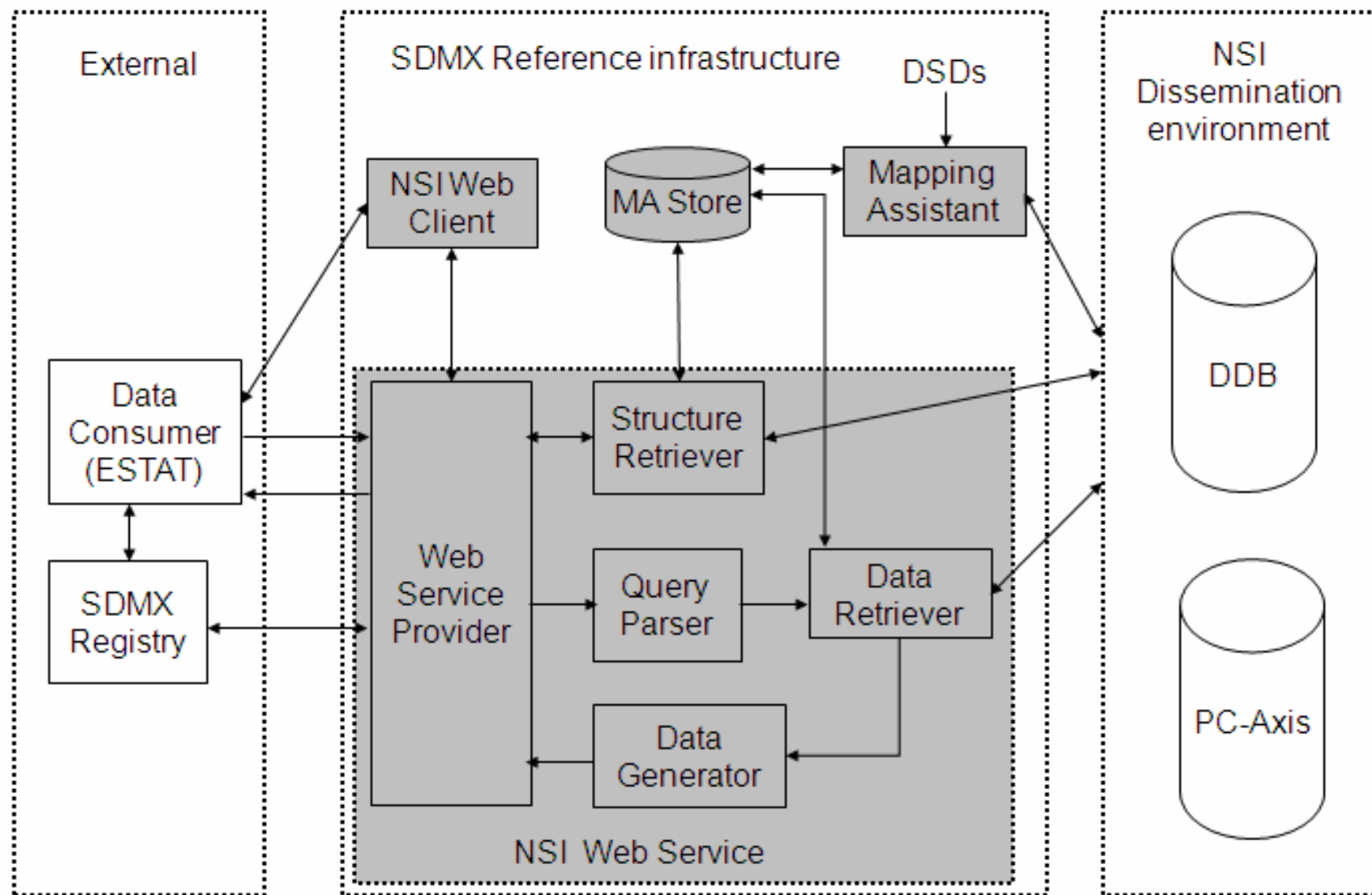
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Current activity status	Total
Geographical area	
Malta	7043 r
Polska	5533
Portugal	5533
Romania	51804

<http://193.109.72.200:8080/CensusHub2/>

Lesson learnt and benefits in participating

- Statistical needs first. Then, technological aspects.
- Capacity-building is a *must*
 - Participating organisations are gaining a good in-house experience in SDMX and its implementation
- A system of distributed databases is harmonised through the use of SDMX standards and content guidelines
- SDMX-RI can be reused for sharing data in other domains
 - Limited cost for installations, development costs can be reduced
 - Step forward towards generic solutions for statistical domains



How to know more

- [CIRCA repository - Census Hub](#)
- [CIRCA repository - SDMX - RI](#)
- [Explanatory notes](#)
- [Census 2011 Regulation](#)
- [Census 2011 Explanatory notes](#)
- [WIKI](#)

For more information

Adam.Wronski@ec.europa.eu

Marco.Pellegrino@ec.europa.eu

Nadezhda.Vlahova@ec.europa.eu

Bengt-Åke.Lindblad@ec.europa.eu

<http://circa.europa.eu/Public/irc/dsis/x-dis-xensus-hub/library>

<http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/themes>

<https://webgate.ec.europa.eu/fpfis/mwikis/sdmx>