The European Commission’s science and knowledge service

Joint Research Centre
A changing migration data landscape?

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European Commission, Joint Research Centre, Knowledge Centre for Migration and Demography (KCMD)
Knowledge Centre on Migration and Demography
KCMD Initiatives

Pre-processed data access & visual analytics

Discovered, filtered & quality checked catalogue of data sources

Fragmented & scattered data

To help policy makers, researchers and stakeholders to analyse data
~20 datasets

To help policy makers, researchers and stakeholders to discover and use data
https://bluehub.jrc.ec.europa.eu/catalogues/data
~140 datasets
Migrants in Georgia

Dynamic Data Hub

Global stock of migrants by UNDESA

Latest revision just released - data for 1st Jan 2017
Georgian Diaspora (reverse function)

Global stock of migrants by UNDESA

Latest revision just released - data for 1st Jan 2017
KCMD - Dynamic Data Hub

Dynamic Data Hub

EUROSTAT statistics (reverse)
The European Commission and the International Organization for Migration launch the **Big Data for Migration Alliance (BD4M)**, a global initiative to unlock the potential of big data sources and provide valuable insights related to migration.
Migration data innovation potential:

1. Spatial Coverage & Periodicity (e.g. Air Traffic Data)
2. Timeliness (e.g. Facebook)
3. Characteristics (e.g. LinkedIn)
4. Granularity in space (e.g. CDR)
Migration data innovation potential:

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Migration data innovation potential I: Spatial Coverage & Periodicity

Air passenger traffic, COL→ESP

December 2015

Air passenger traffic, PER→ESP

March 2016
Migration data innovation potential I: Spatial Coverage & Periodicity

Migration flows, COL→ESP

Migration flows, PER→ESP
Migration data innovation potential I: Spatial Coverage & Periodicity

Visa waiver for Georgia, 28 March 2017
Air traffic passenger data - Mobility

![Graph showing air traffic passenger data for BIH->DEU, with trends for passengers before, passengers after, and migrants flow, along with a note for visa liberalization.](image)
Air traffic passenger data - Mobility

![Graph showing air traffic passenger data and mobility changes over time. The graph indicates trends in passengers before and after visa liberalization, with a new connection point in 2014.](image-url)
Migration data innovation potential I: Spatial Coverage & Periodicity

Taking into account:
- Diasporas/networks
- GDP differential
- Trade & business
- Geographical distance
- Mobility channels
Migration data innovation potential:

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Big Data and non-traditional data for migration

Latest EU official statistics: 1-Jan-17, Spanish Statistical Office: 1-Jan-18

Facebook Advertising Platform data: high refresh rate – real time census

The research has provided insights to several Commission services

Venezuelans in Spain: latest EU official statistics, Spanish Statistical Office, Facebook Network data (improved frequency update & timeliness)

Migration data innovation potential:

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Migration data innovation potential III: Characteristics

Example of highly-skilled migrants using LinkedIn advertising platform

... In Germany
Migration data innovation potential:

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3. Characteristics (e.g. LinkedIn)
4. Granularity in space (e.g. CDR)
Assembling the data from Census 2011

Census tract: ES, IT, IE, UK, FR

Grid 100x100 m: DE

Postal codes NL

Migration data innovation potential IV: Granularity (space)

D4I - Data for Integration

Data Challenge
Migration data innovation potential IV: Granularity (space)

D4I - Data Challenge

External projects through the Data Challenge

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<td>data science</td>
<td>NamSor Applied Onomastics NamSor SAS, ISTI-CNR</td>
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<td>diversity</td>
<td>Erasmus University Rotterdam, University of Rome La Sapienza, Institute for Research into Superdiversity, University of Birmingham, London School of Economics and Political Science</td>
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<td>Gran Sasso Science Institute</td>
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<td>University College London, Migration Policy Centre, European University Institute, Florence, The Vienna Institute for International Economic Studies</td>
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<td>Bocconi University, Graduate Institute of International and Development Studies, Geneva, Switzerland, Cornell University</td>
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<td>Wissenschaftszentrum Berlin für Sozialforschung WZB Berlin Social Science Research Center, University of Tartu, Estonia</td>
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<td>segregation</td>
<td>Department of Political Sciences, University of Naples Federico II, Université Paris 1 Panthéon Sorbonne, University of Liverpool, Universitat Autònoma de Barcelona, Bremen International Graduate School of Social Sciences, Institute of Geography and Spatial Planning-University of Lisbon</td>
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<td>transport</td>
<td>Dublin Institute of Technology, National Technical University of Athens Greece</td>
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KCMD internal projects

- Migration and housing market in Italy
- Migration and electoral outcomes (NL, IT, ES, DE)
- Temporal evolution of segregation (2001 vs 2011 Census)
Migration data innovation potential IV: Granularity (space)

Density of mobile phone traffic with China and areas of highest concentration of migrants from 2011 Census

Sources:
- Italian Census Data &
- Call Detail Records, Telecom Italia
Any questions?
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