The European Commission's science and knowledge service

Joint Research Centre

A changing migration data landscape?

Michele Vespe
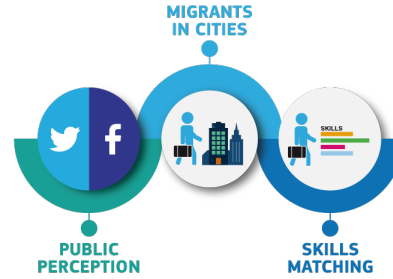
European Commission, Joint Research Centre,

Knowledge Centre for Migration and Demography (KCMD)
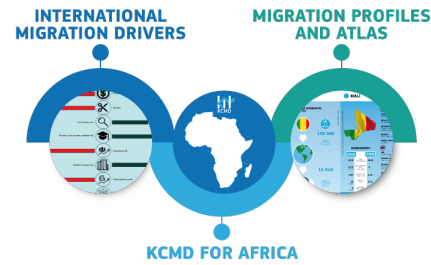
European
Commission

Knowledge Centre on Migration and Demography
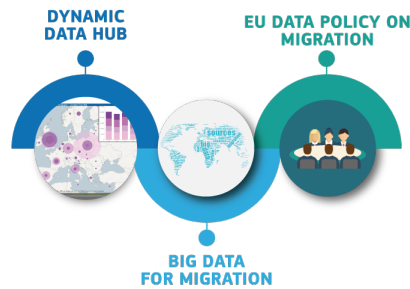

KNOWLEDGE CENTRE
ON MIGRATION
AND DEMOGRAPHY

INTERNAL DIMENSION

MIGRANTS
IN CITIES

PUBLIC
PERCEPTION

SKILLS
MATCHING

EXTERNAL DIMENSION

INTERNATIONAL
MIGRATION DRIVERS

MIGRATION PROFILES
AND ATLAS

KCMD FOR AFRICA

DATA FOR MIGRATION

DYNAMIC
DATA HUB

EU DATA POLICY ON
MIGRATION

BIG DATA
FOR MIGRATION

European
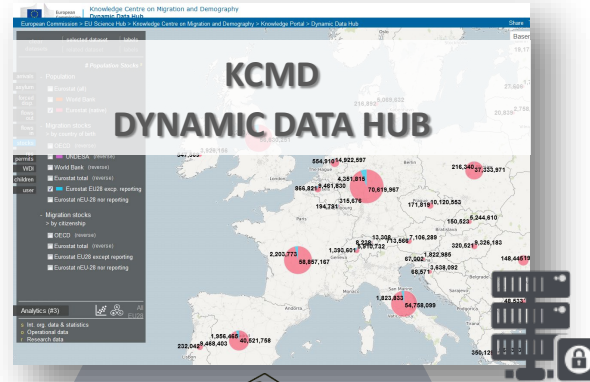Commission

KCMD Initiatives

Pre-processed
data access &
visual analytics

To help policy makers, researchers and
stakeholders to *analyse* data

https://bluehub.jrc.ec.europa.eu/migration/app/index.html

~20 datasets

Discovered, filtered & quality
checked catalogue of data
sources

To help policy makers, researchers and
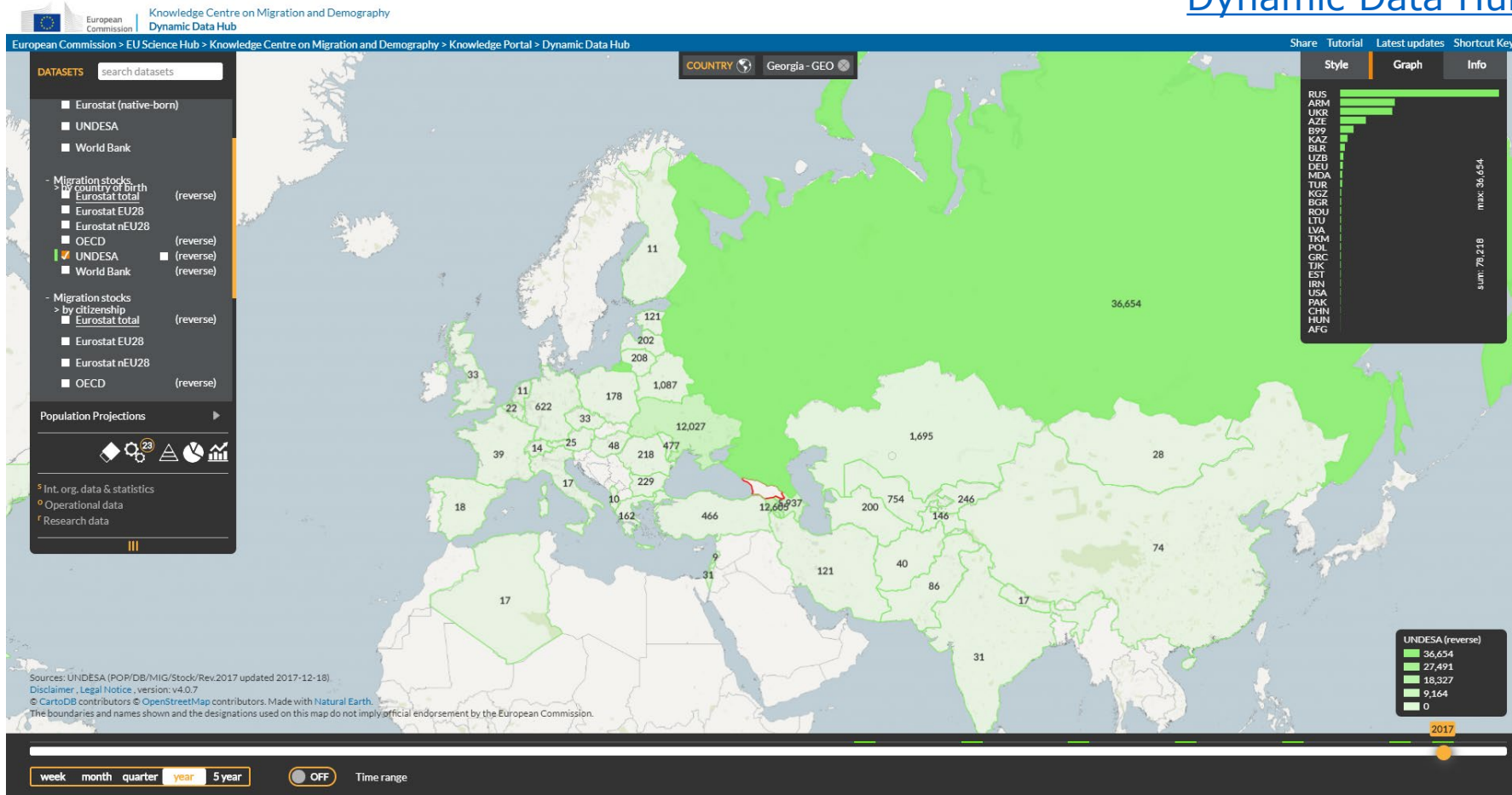stakeholders to *discover* and *use* data

https://bluehub.jrc.ec.europa.eu/catalogues/data

~140 datasets

Fragmented &
scattered data

European
Commission

KCMD - Dynamic Data Hub

Migrants in Georgia

[Dynamic Data Hub](#)

Global stock of migrants by UNDESA
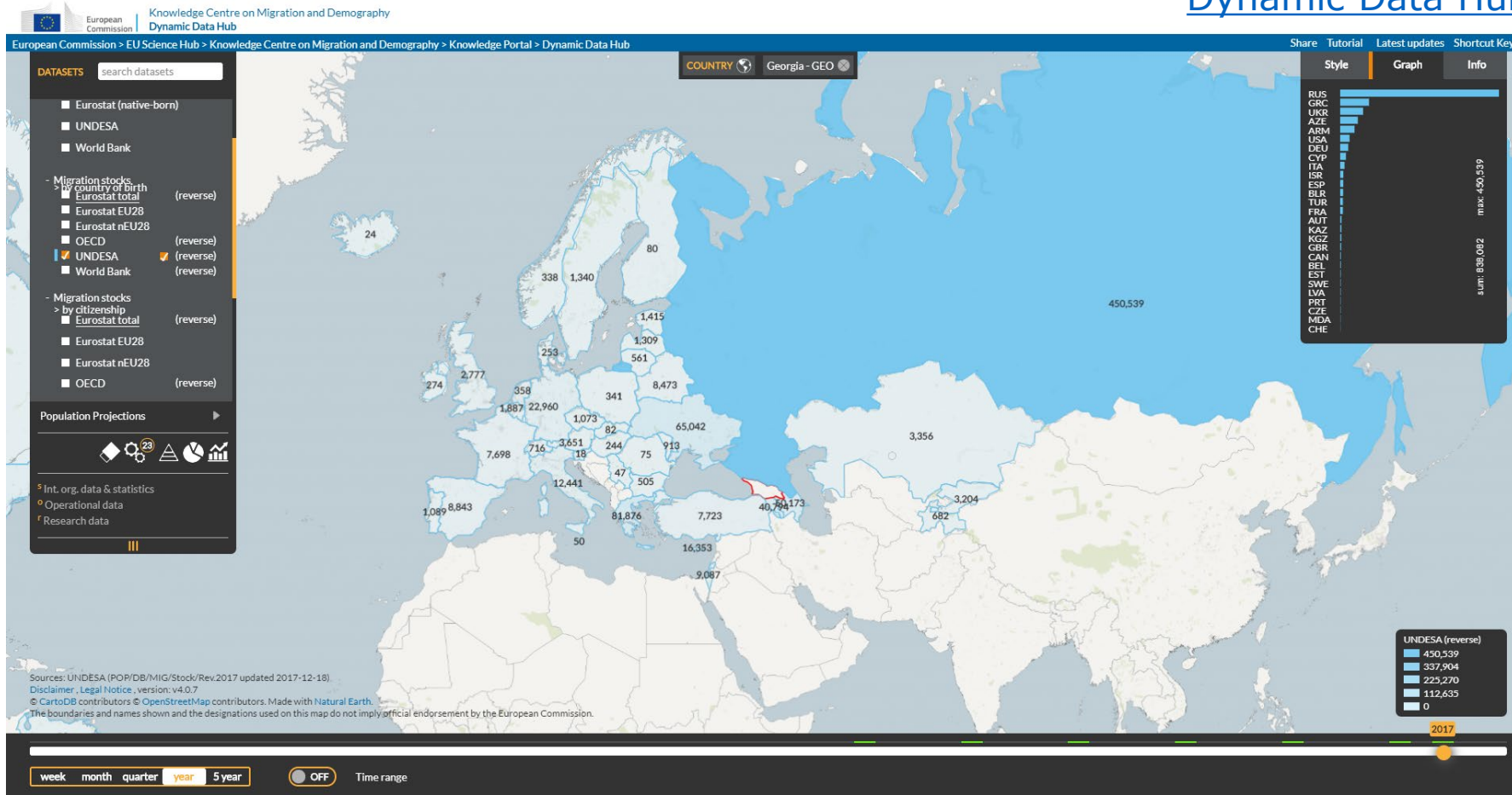
Latest revision just released – data for 1st Jan 2017

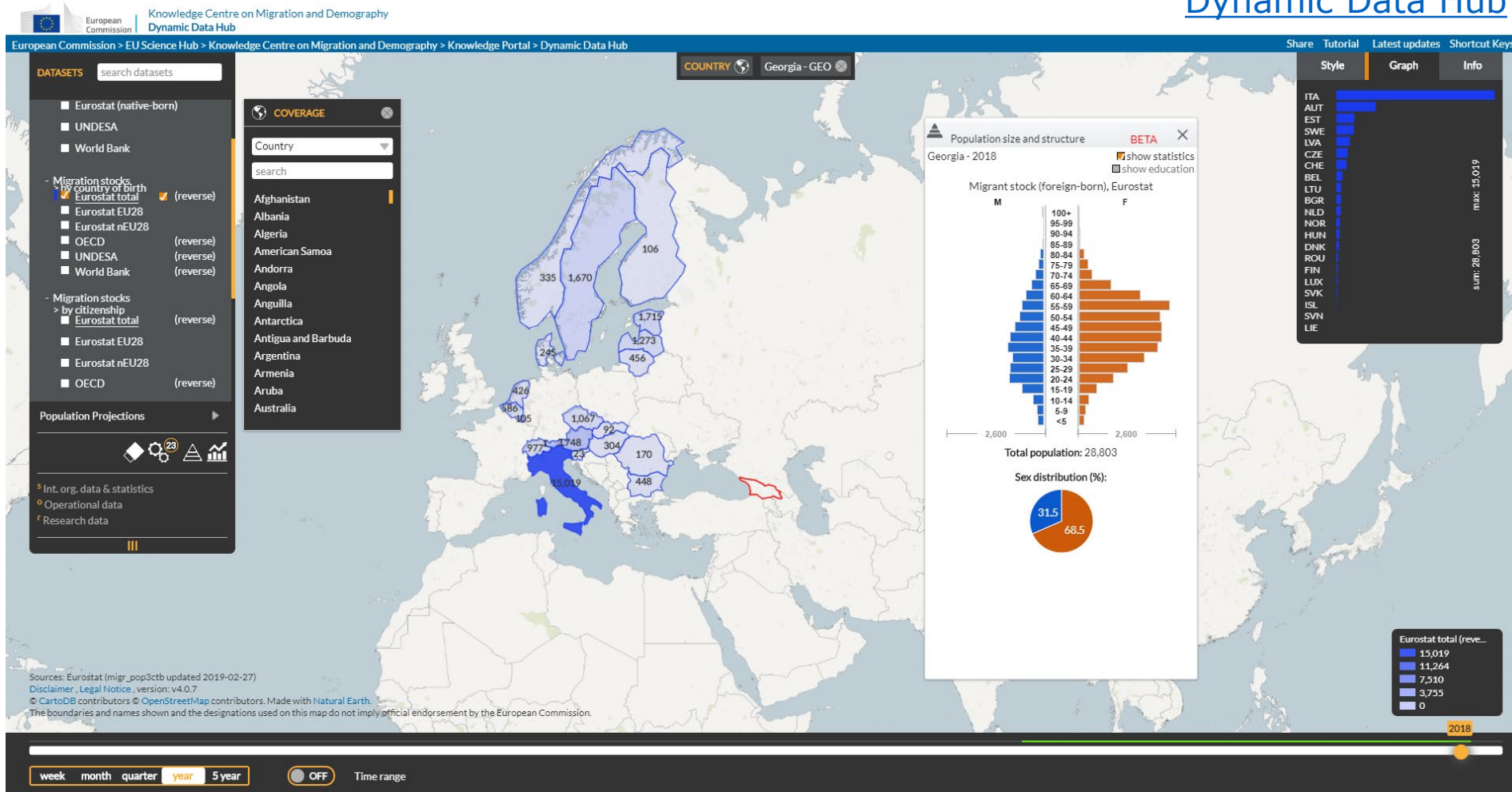# KCMD - Dynamic Data Hub

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)

Big Data for Migration (BD4M) Alliance

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
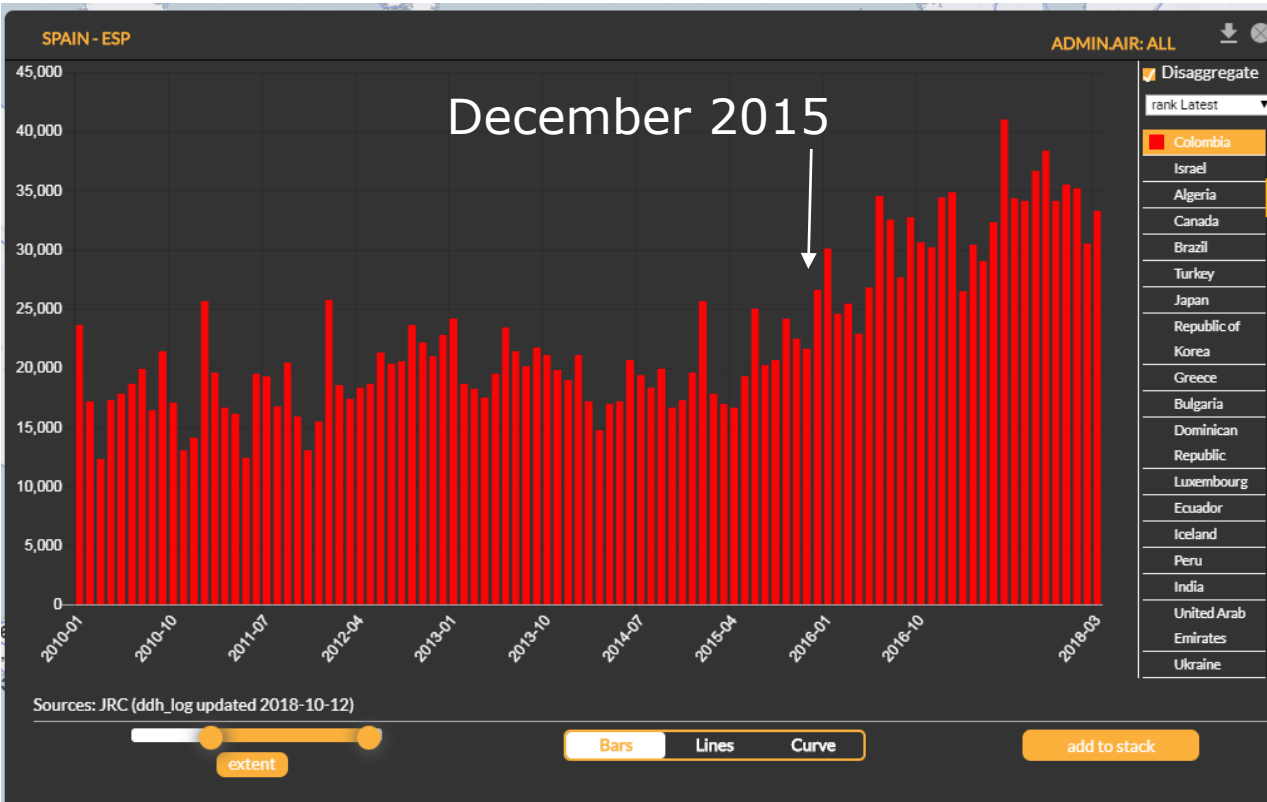
Migration data innovation potential:

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:

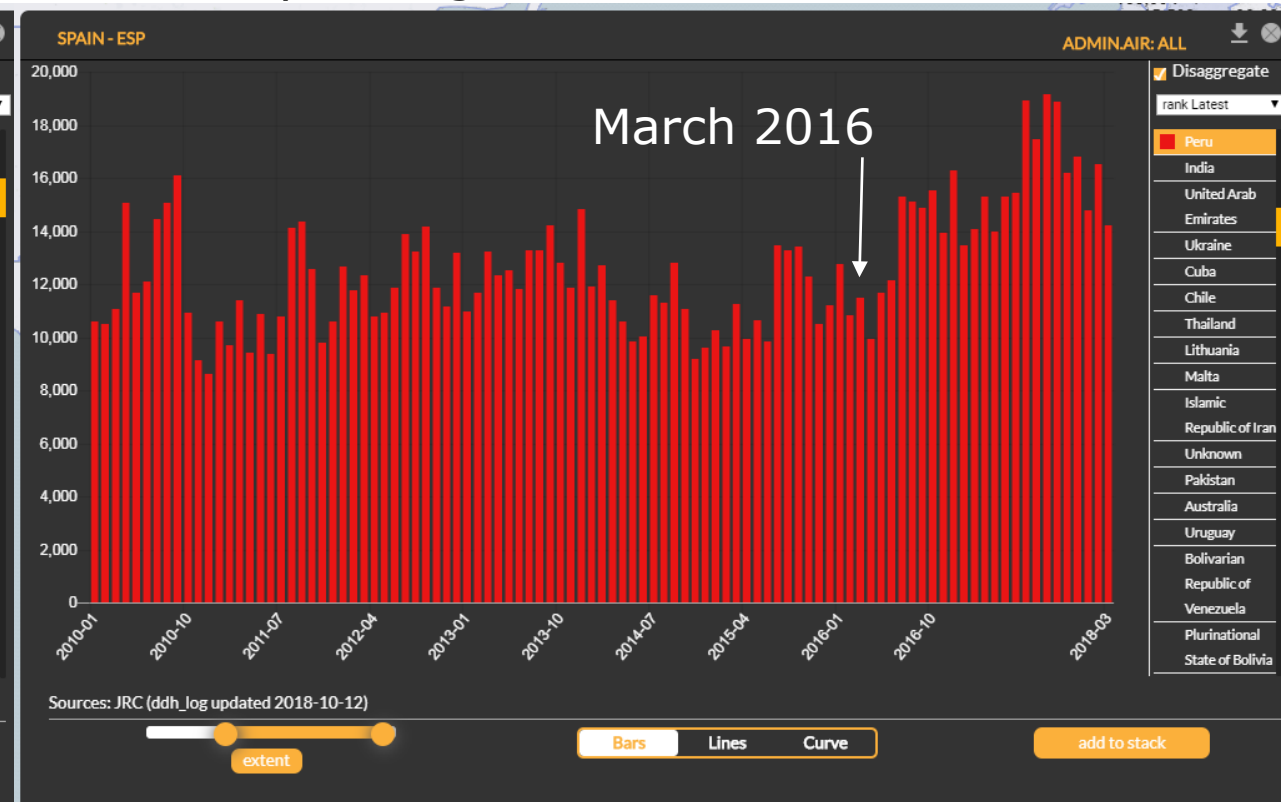1. Spatial Coverage & Periodicity (e.g. Air Traffic Data)
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Migration data innovation potential I: Spatial Coverage & Periodicity
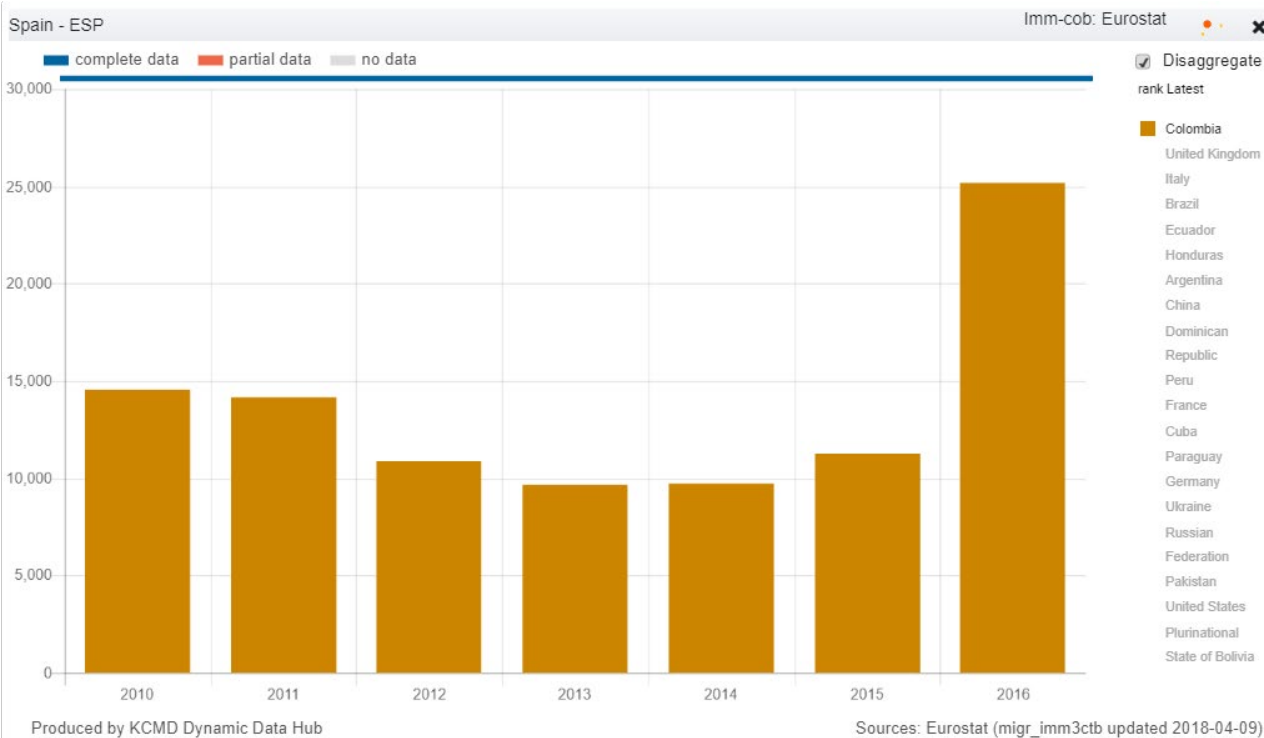

Air passenger traffic, COL→ESP

Air passenger traffic, PER→ESP

European Commission

Migration data innovation potential I: Spatial Coverage & Periodicity
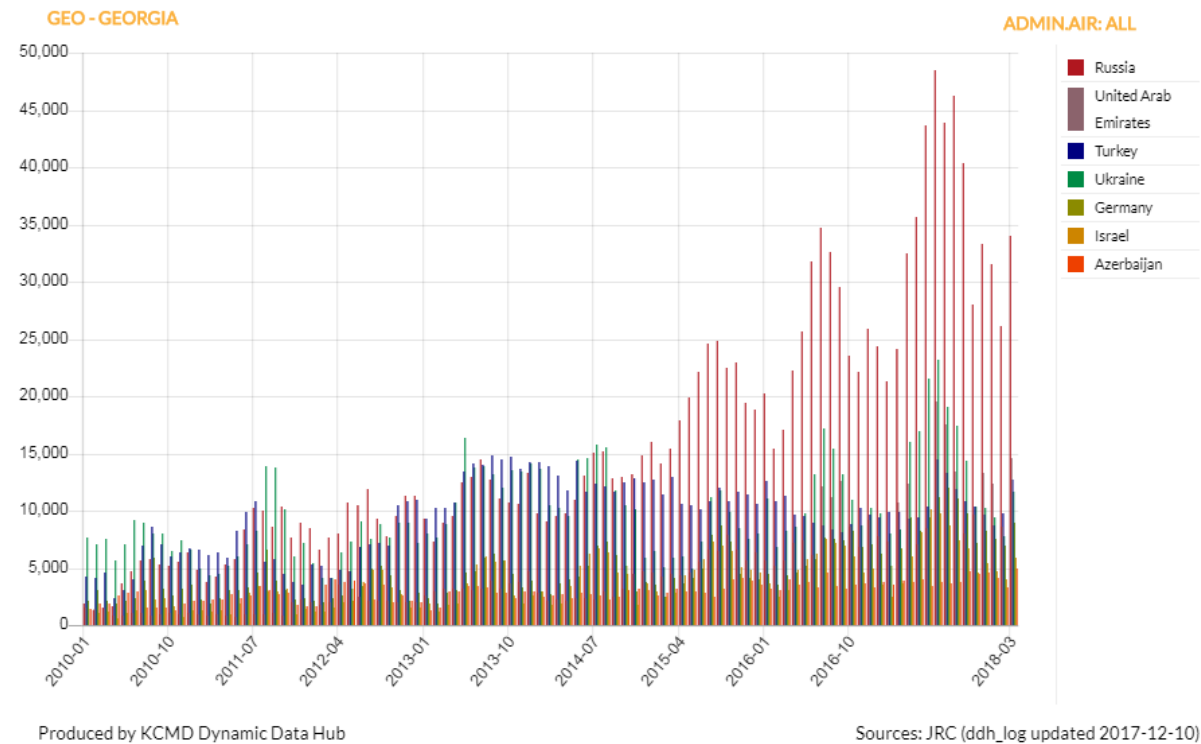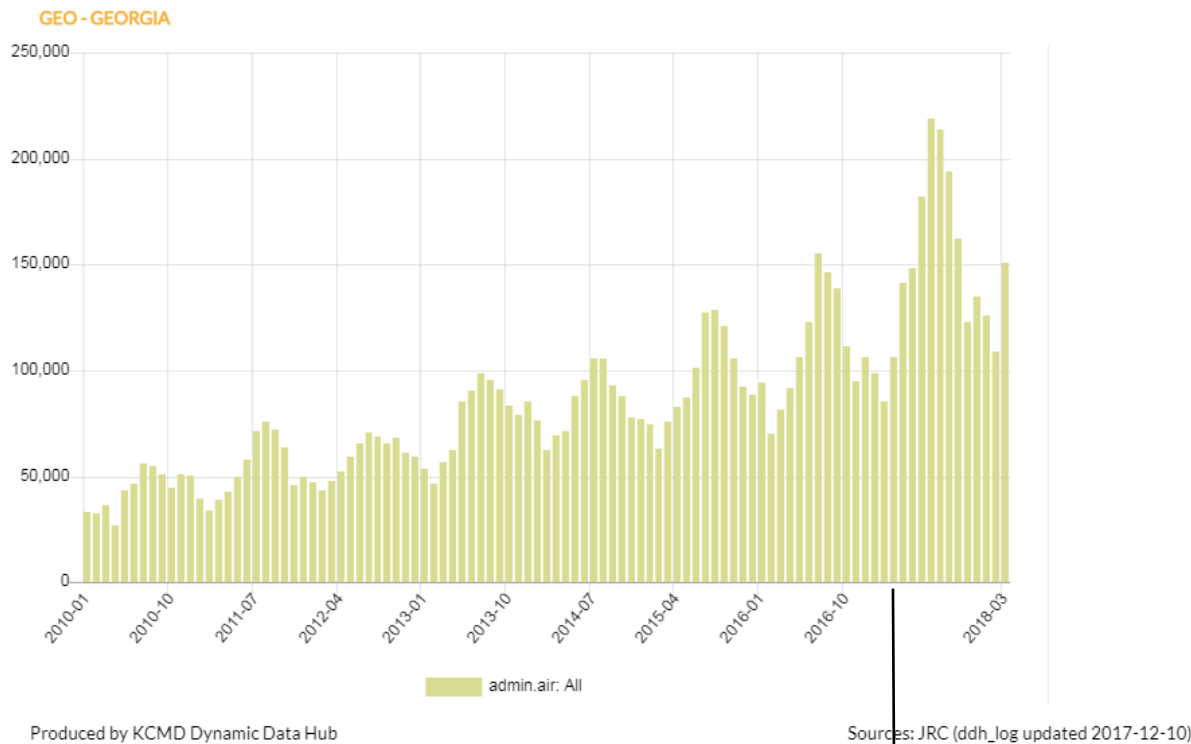

Migration flows, COL→ESP

Migration flows, PER→ESP

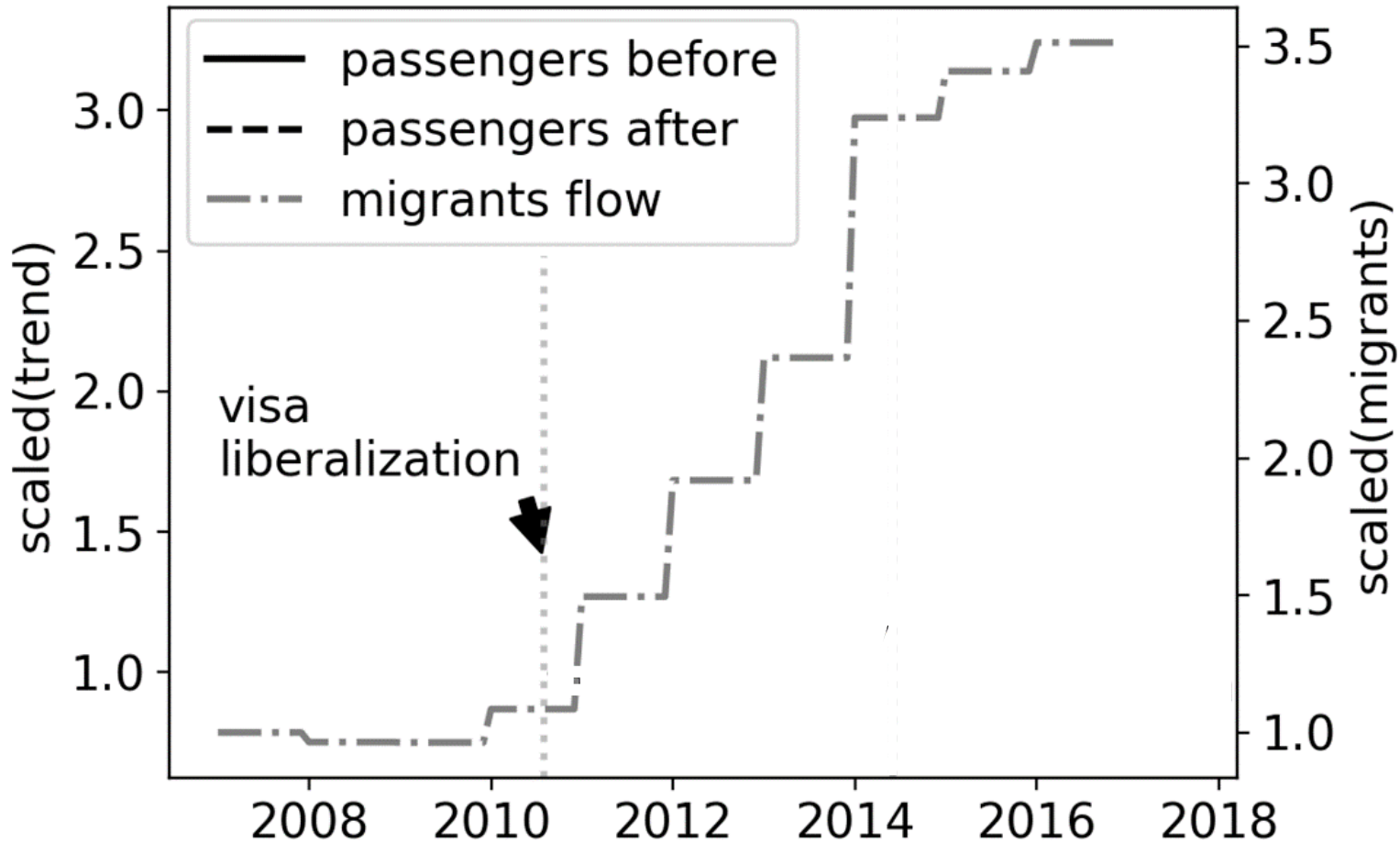# Migration data innovation potential I: Spatial Coverage & Periodicity

Visa waiver for Georgia, 28 March 2017

Air traffic passenger data - Mobility

BIH->DEU
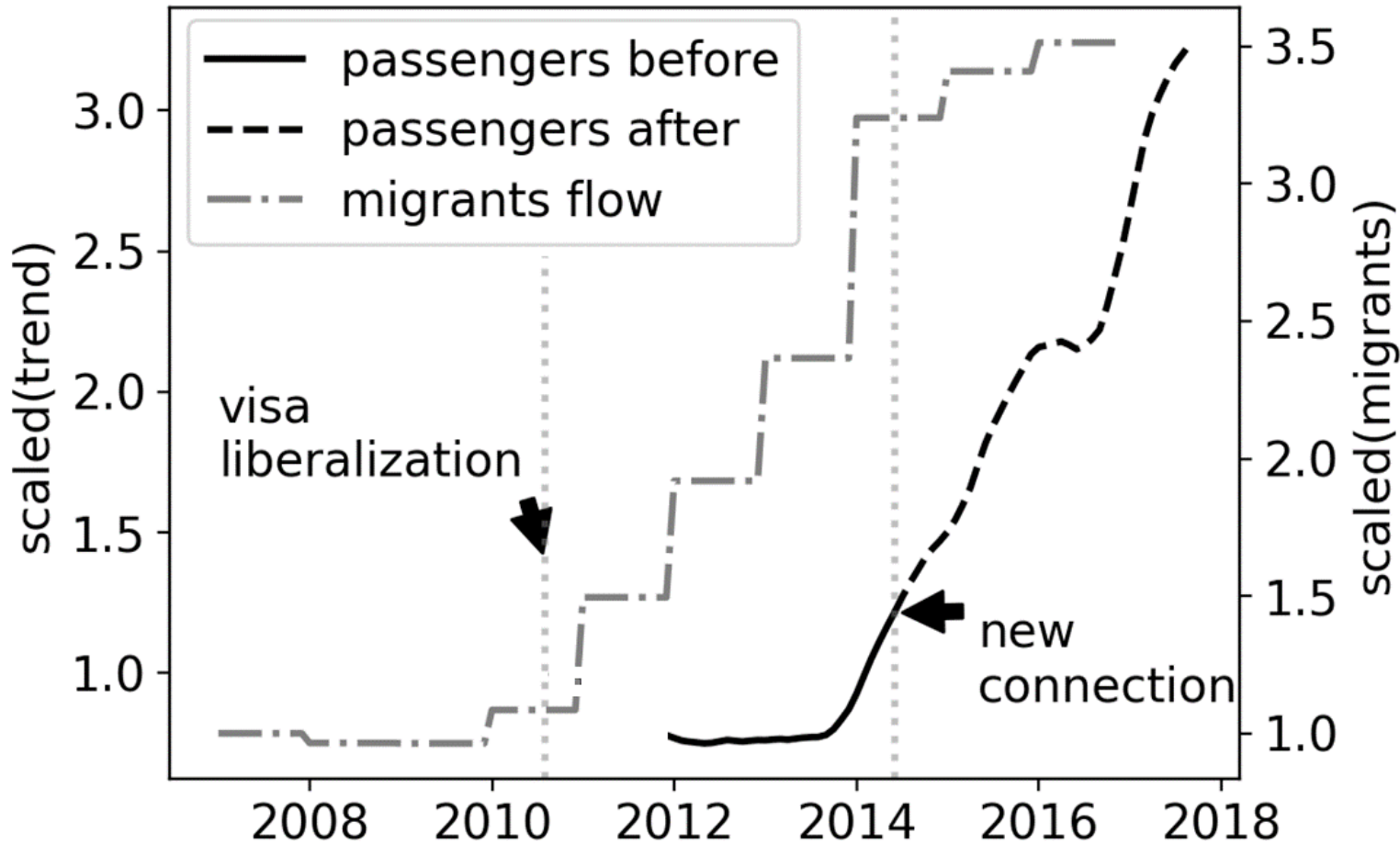
Air traffic passenger data - Mobility

Migration data innovation potential I: Spatial Coverage & Periodicity

Taking into account:

- Diasporas/networks
- GDP differential
- Trade & business
- Geographical distance
- Mobility channels

European Commission

Migration data innovation potential:

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Big Data and non-traditional data for migration

KCMD ELABORATION ON FACEBOOK DATA (15-64 y.o.)

NATIONAL STATISTICS - INE PADRON CONTINUO

EUROPEAN STATISTICS - EUROSTAT

333 705
320 033
309 725
292 856
280 209
270 533
254 852
199 380
173 963
160 478
154 343

JAN 2014
JAN 2015
JAN 2016
JAN 2017
JAN 2018
FEB
MAG
SEP
NOV
JAN FEB 2019
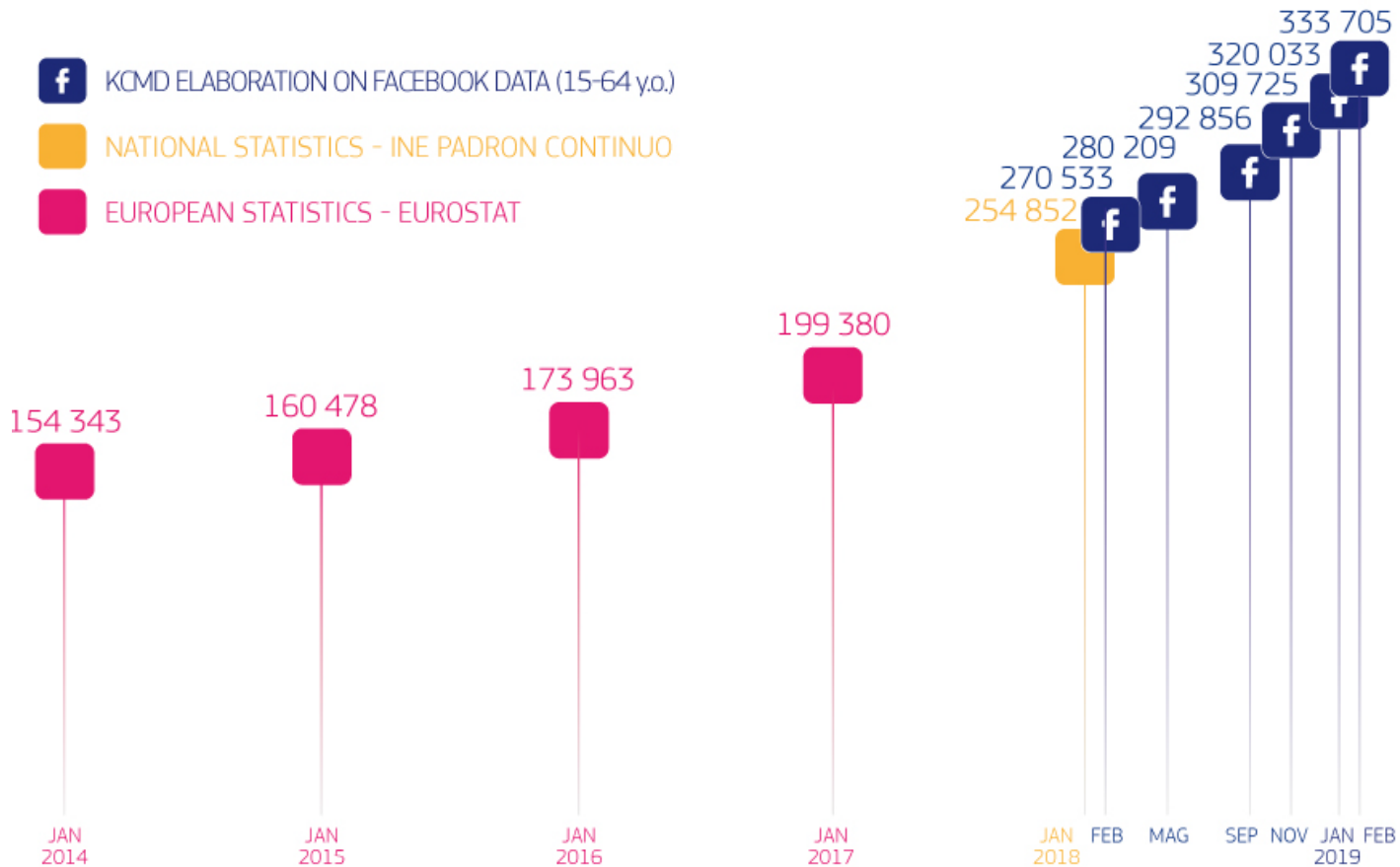
Latest EU official statistics: 1-Jan-17, Spanish Statistical Office: 1-Jan-18

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)

S. Spyratos, M. Vespe, F. Natale, E. Zagheni, I. Weber, M. Rango, working paper on *Migration Data using social Media: a European Perspective*

Migration data innovation potential:

1. Spatial Coverage & Periodicity (e.g. Air Traffic Data)
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4. Granularity in space (e.g. CDR)

Migration data innovation potential III: Characteristics

Legend (Absolute numbers):
- < 200
- 200 - 500
- 500 - 1000
- 1000 - 2000
- 2000 - 3000
- 3000 - 4000
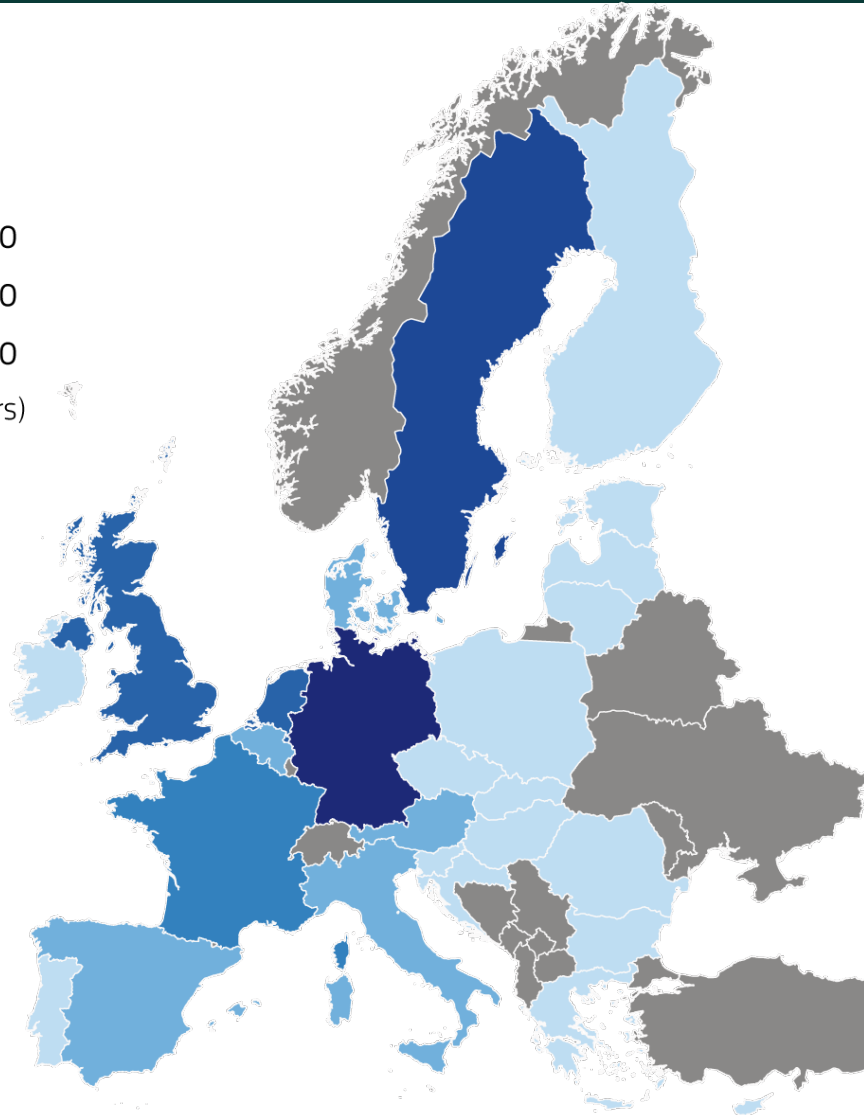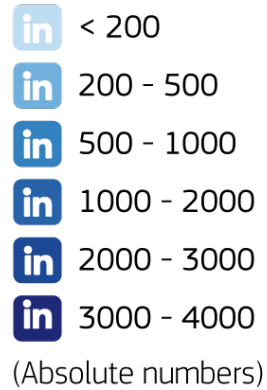
Example of highly-skilled migrants using LinkedIn advertising platform

… In Germany

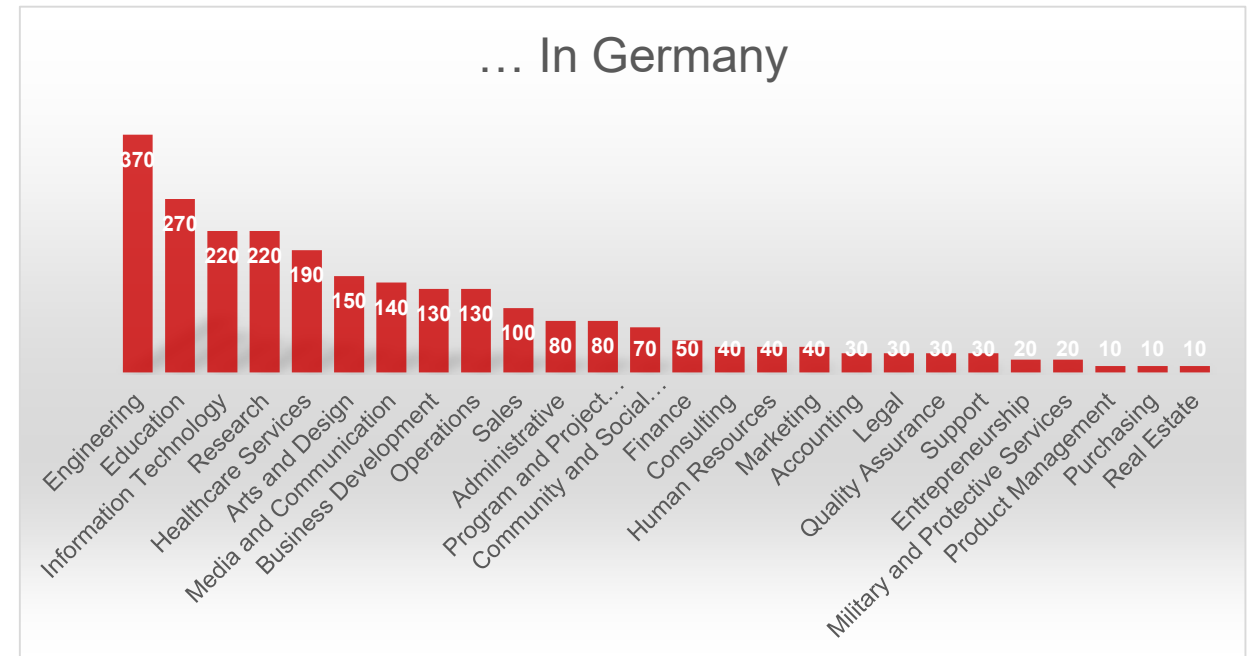| Category	Value
Engineering	370
Education	270
Information Technology	220
Research	220
Healthcare Services	190
Arts and Design	150
Media and Communication	140
Business Development	130
Operations	130
Sales	100
Administrative	80
Program and Project…	80
Community and Social…	70
Finance	50
Consulting	40
Human Resources	40
Marketing	40
Accounting	30
Legal	30
Quality Assurance	30
Support	30
Entrepreneurship	20
Military and Protective Services	20
Product Management	10
Purchasing	10
Real Estate	10

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Migration data innovation potential:

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Migration data innovation potential IV: Granularity (space)
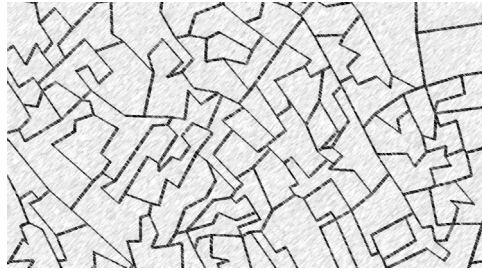
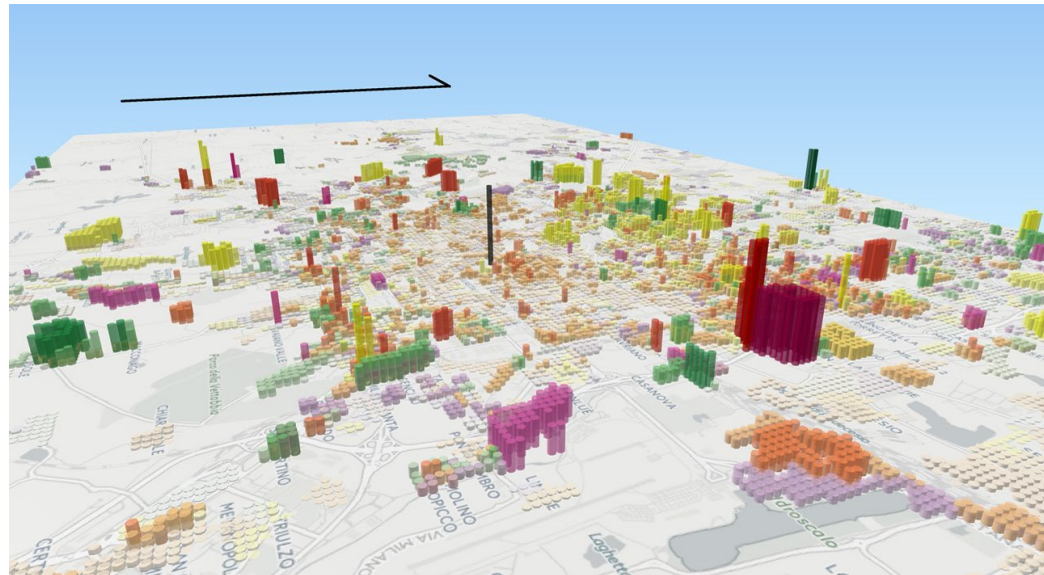

Census tract: ES, IT, IE, UK, FR
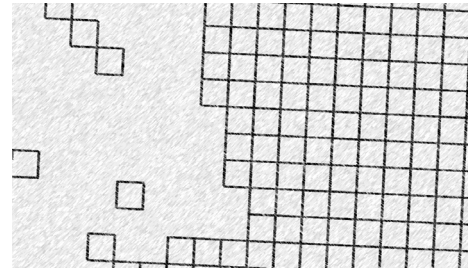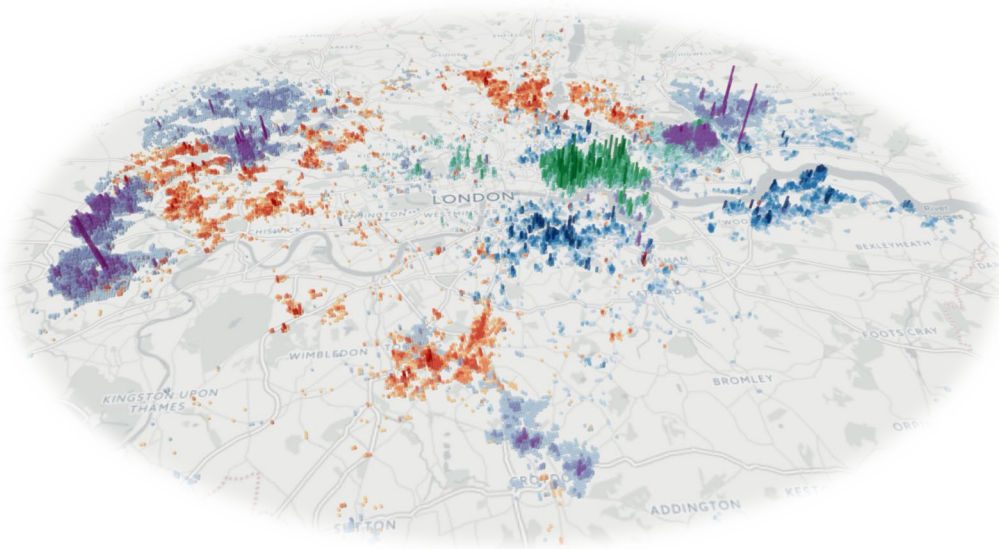
Grid 100x100 m: DE

Postal codes NL

Assembling the data from Census 2011

D4I - Data for Integration

Data Challenge

Migration data innovation potential IV: Granularity (space)

D4I - Data Challenge


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)

External projects through the Data Challenge

data science	NamSor Applied Onomastics NamSor SAS
	ISTI-CNR
diversity	Erasmus University Rotterdam
	University of Rome La Sapienza
	Institute for Research into Superdiversity, University of Birmingham
	London School of Economics and Political Science
housing	Gran Sasso Science Institute
labour market	University College London
	Migration Policy Centre, European University Institute, Florence
	The Vienna Institute for International Economic Studies
politics and sentiments	Bocconi University
	Graduate Institute of International and Development Studies, Geneva, Switzerland
	Cornell University
public services	Wissenshaftzentrum Berlin für Sozialforschung WZB Berlin Social Science Research Center
	University of Tartu, Estonia
segregation	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
transport	Dublin Institute of Technology
	National Technical university of Athens Greece

Migration data innovation potential IV: Granularity (space)
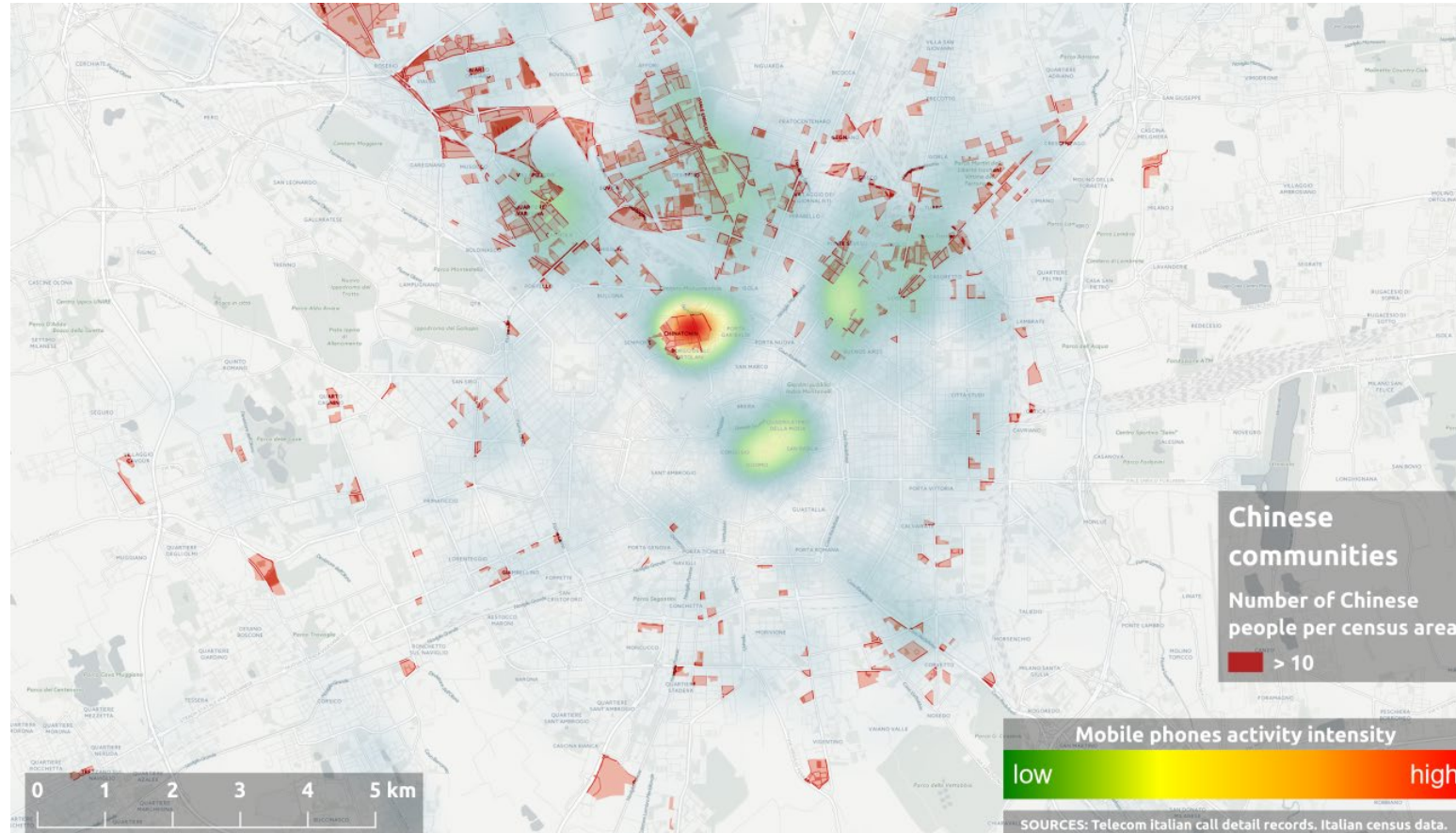
Density of <u>mobile phone</u> traffic with China and areas of highest concentration of migrants from 2011 <u>Census</u>

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

European Commission

Any questions?
You can find me at @M_Vespe & michele.vespe@ec.europa.eu

European Commission