

# Big Data for Migration: Promises and Challenges

*Open Day of the UN Global Working Group on Big Data for Official Statistics*

*Dubai, 21 October 2018*



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GMDAC



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# IOM's Global Migration Data Analysis Centre



Officially launched on 7 September 2015



Part of IOM's response to growing calls for action to improve data on international migration globally



Part of IOM's HQ

Based in Berlin at the invitation of the Government of Germany



Team of 15



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# Data Innovation for Migration: Why?

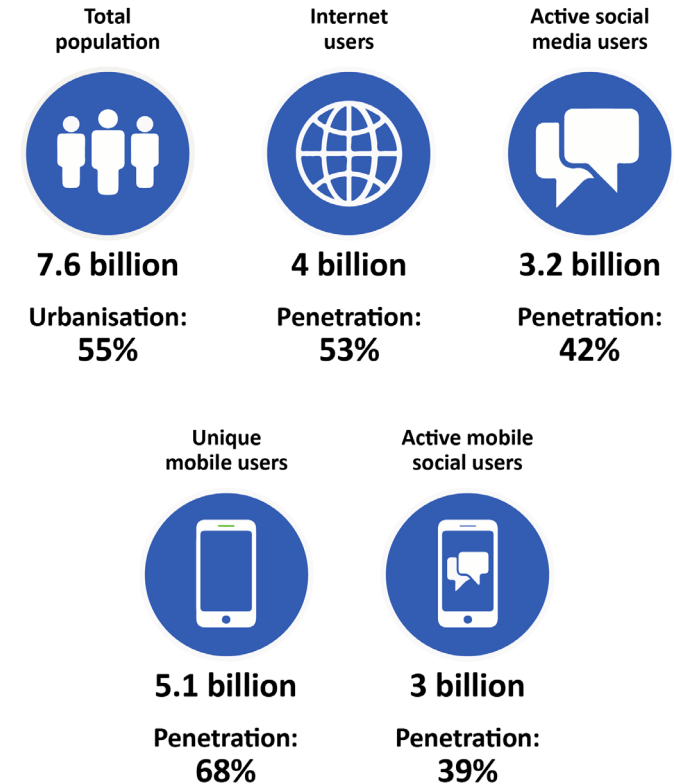
The Global Data Revolution

The (persistent) paucity of migration data

Renewed calls (needs) for evidence on migration  
(SDGs and GCM)

## Digital around the world in 2018

Key statistical indicators for the world's internet,  
mobile and social media users



Infographic based on Hootsuite and We Are Social, 2018. For sources and further information please see original at: <https://wearesocial.com/uk/blog/2018/01/global-digital-report-2018>



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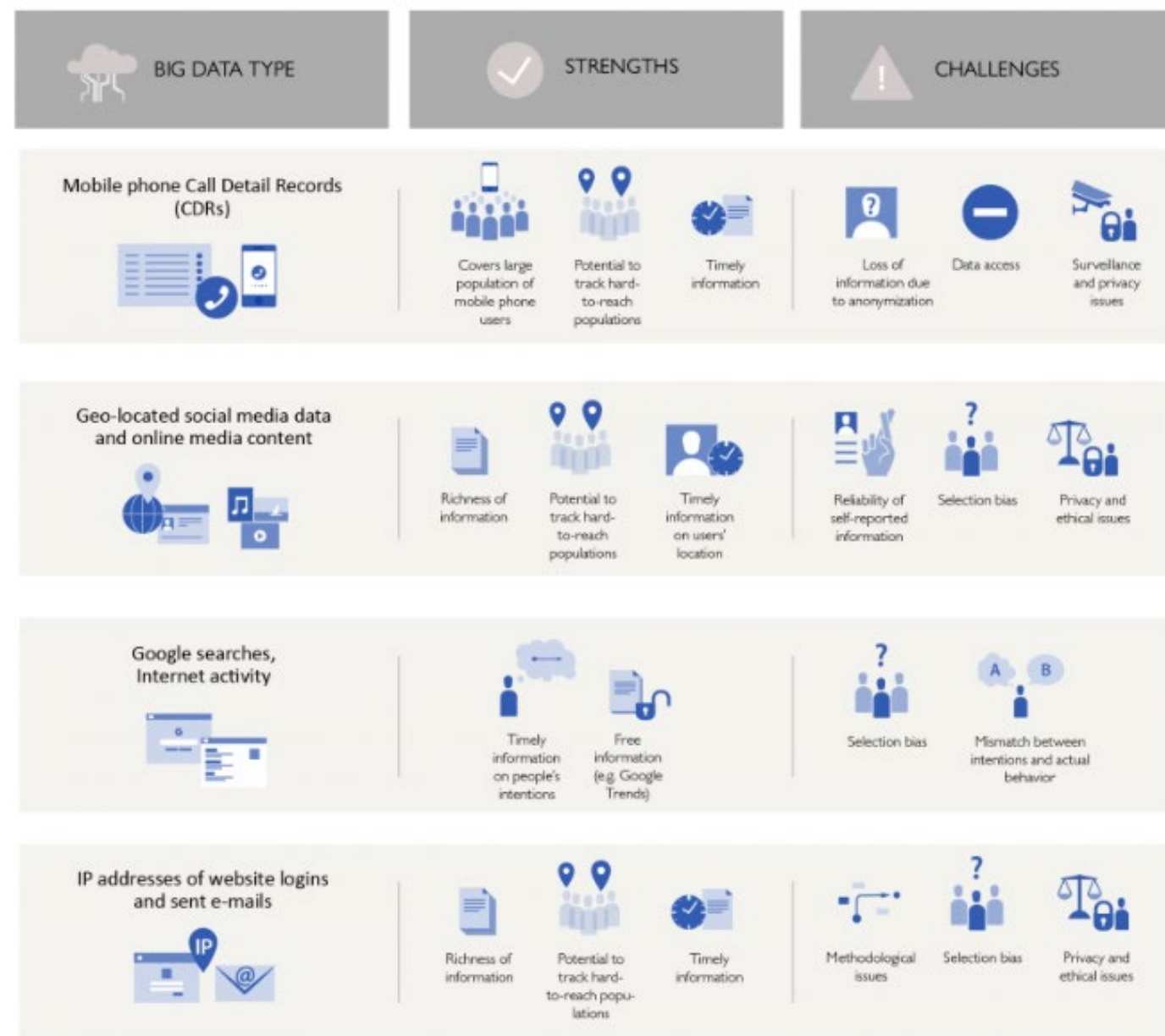
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# The potential

- High spatial resolution
- High frequency of update
- Timeliness (virtually real-time)
- Wide coverage (hard-to-reach populations)
- Larger sample size compared to surveys
- Richness of information
- Relatively low cost (depending on...)



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# Big data for migration: from case-studies to policy support

Most promising application:

*Social media advertising platforms*

## Opportunities

- Real time census
- “inexpensive”
- Attributes like country of origin, education, age, sex (self-reported) and interests (likes)

## Challenges

- Information reliability (often self-reported by user)
- Definitions (proprietary)
- Aggregations/rounding (proprietary)
- Penetration rate / selection bias (country, sex, age, education, sector, urban/rural...)
- Fake or double accounts
- Assimilation: expats destination or origin penetration rate?

The screenshot shows the Facebook Ads Manager interface for a user named Michele Vespe. The main area is titled 'Welcome back, Michele! You can continue creating this ad, or Start a new ad.' The interface is divided into several sections:

- Ad set name:** GB - 18-30
- Traffic:** Website (selected), App, Messenger
- Offer:** OFF
- Audience:** Define who you want to see your ads. Learn more.
- Custom Audiences:** Target ads to people who know your business. You can create a Custom Audience to show ads to your contacts, website visitors or app users.
- Locations:** People who live in this local... (United Kingdom selected)
- Age:** 18 - 30
- Gender:** All, Men, Women
- Languages:** Enter a language...
- Detailed targeting:** INCLUDE people who match at least ONE of the following (Behaviours > Ex-pats, Ex-pats (Italy))

On the right side, there are summary statistics:

- Audience size:** Your audience selection is fairly broad. Estimated Audience Size: 62,000 people
- Estimated daily results:** Reach: 3,800-11,000; Link clicks: 33-150

A red arrow points to the 'United Kingdom' location selection, with the text 'Drill down to 1km' next to it.



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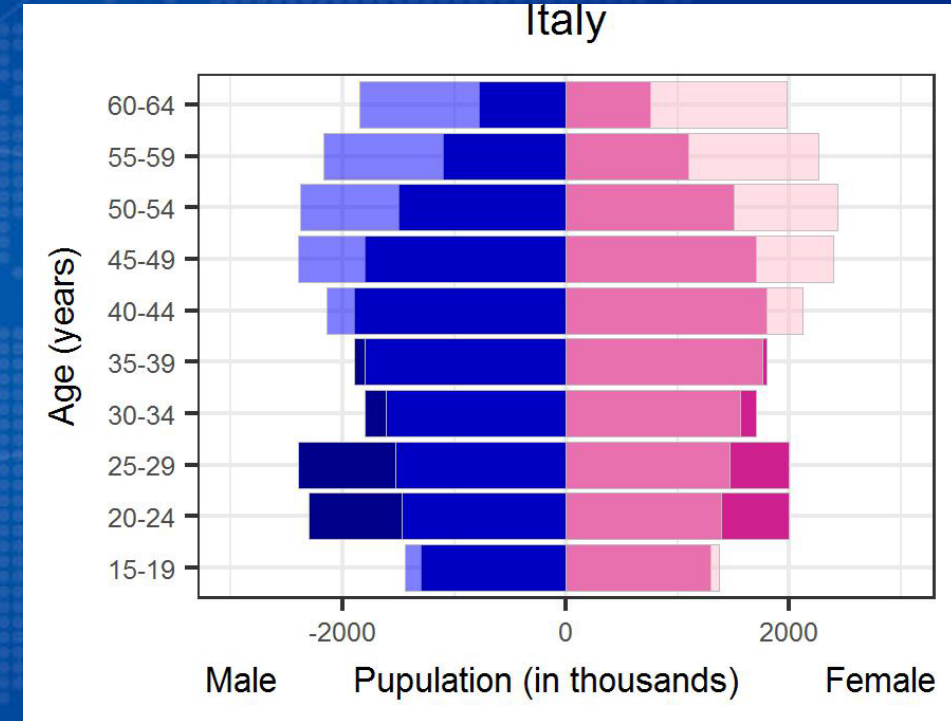
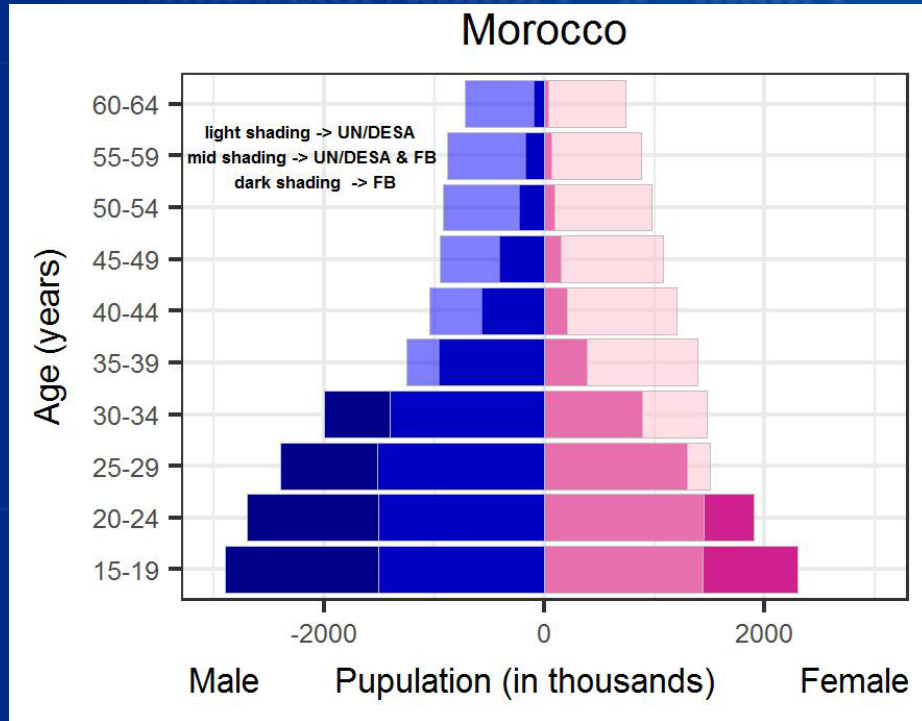
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# Understanding the bias

Correction bias a question of penetration rate (popularity and internet access) but also gender gap



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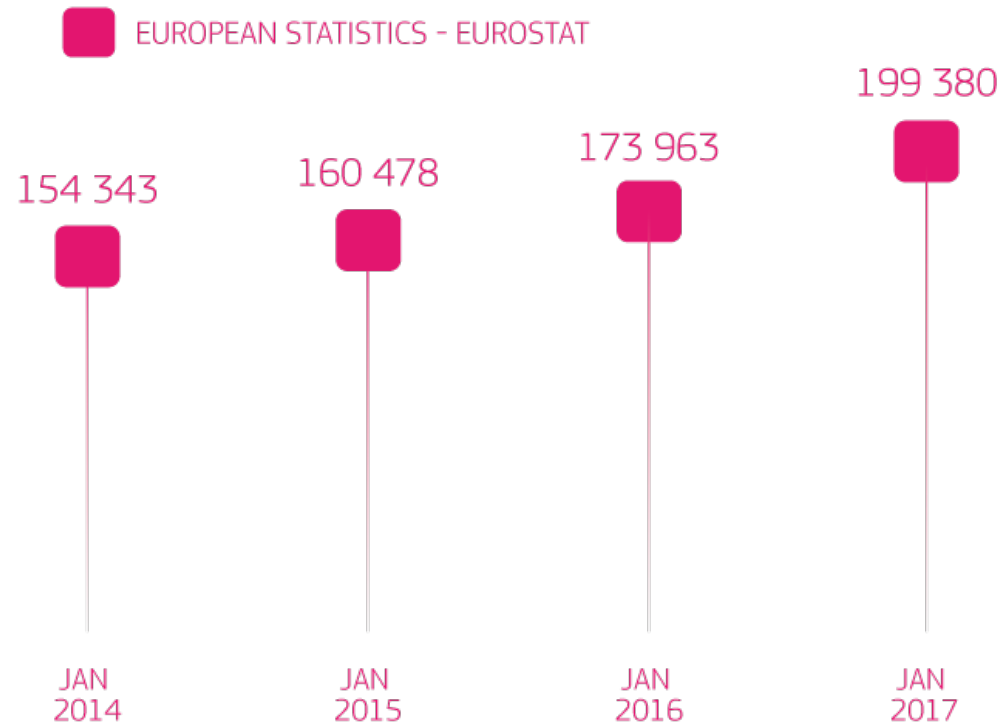


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# Migration data innovation potential I – Facebook



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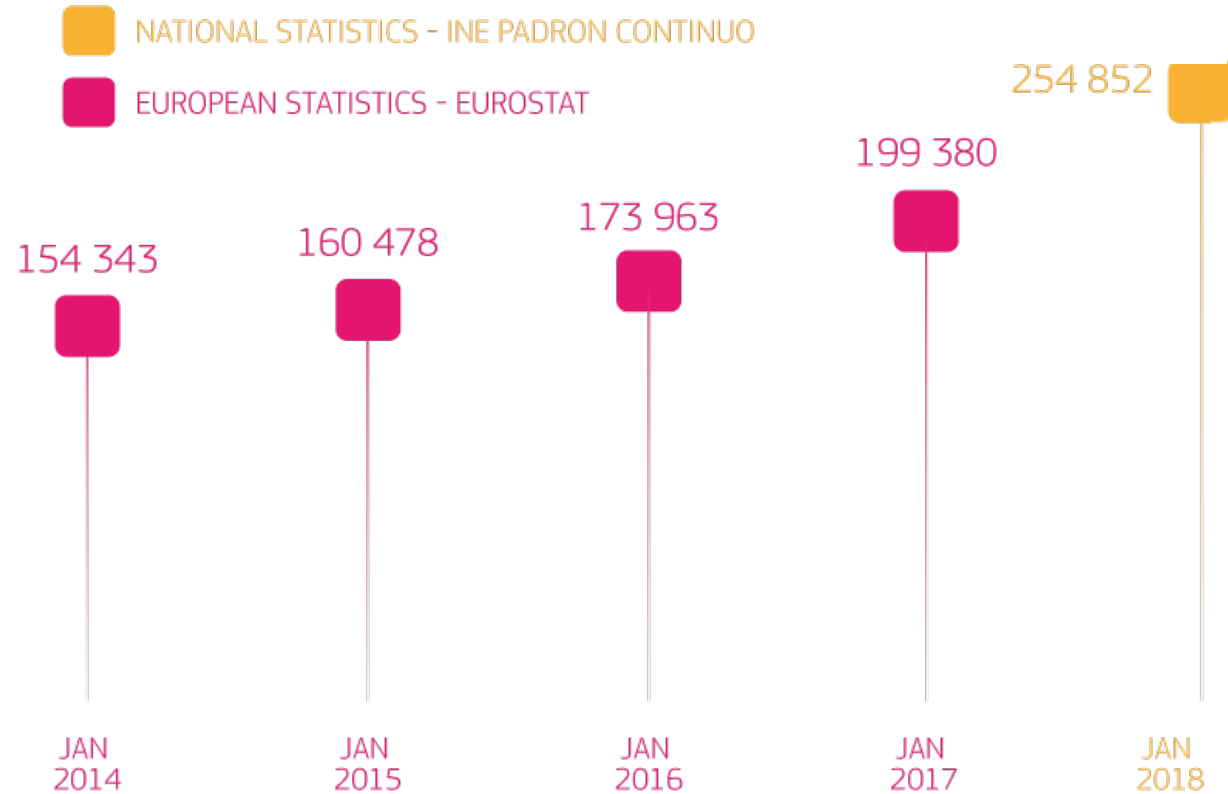


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# Migration data innovation potential I – Facebook



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



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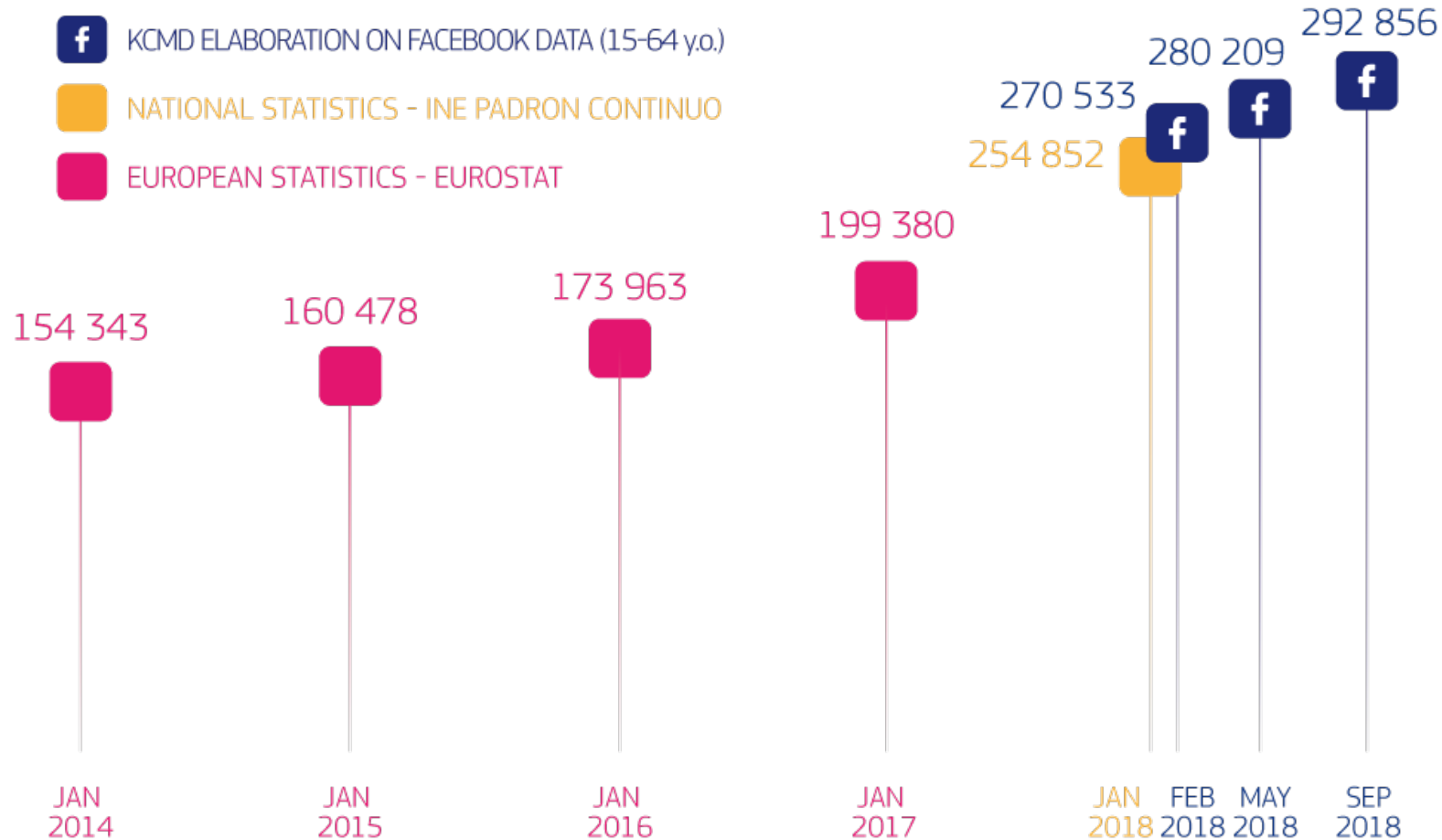
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# Migration data innovation potential I – Facebook



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

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

*“Migration Data using Social Media”*  
Spyratos, S., M. Vespe, F. Natale, I. Weber,  
E. Zagheni and M. Rango,  
doi:10.2760/964282, 2018



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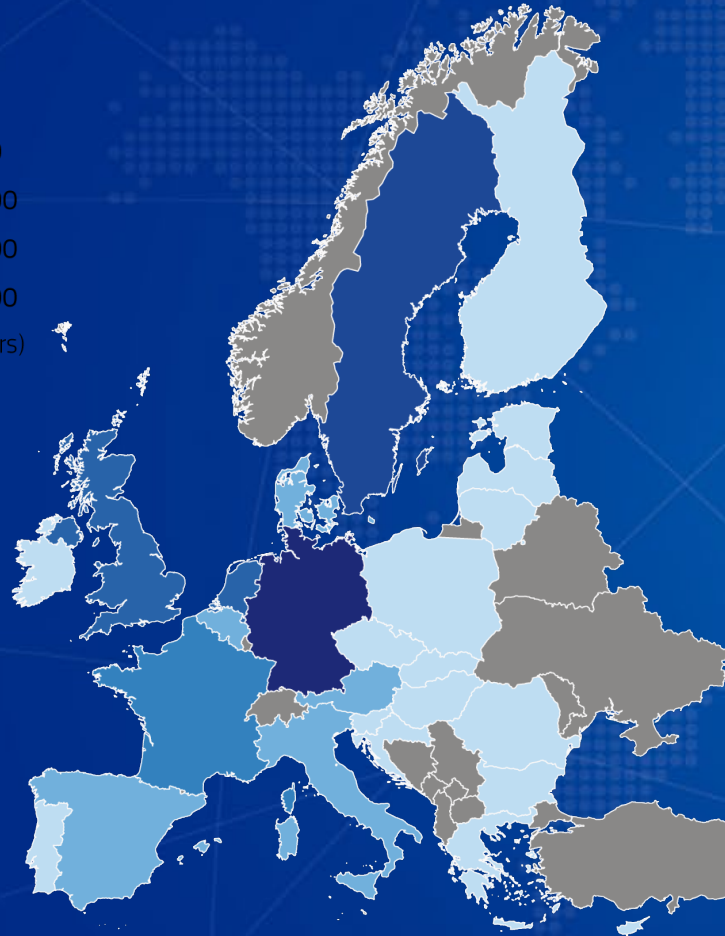


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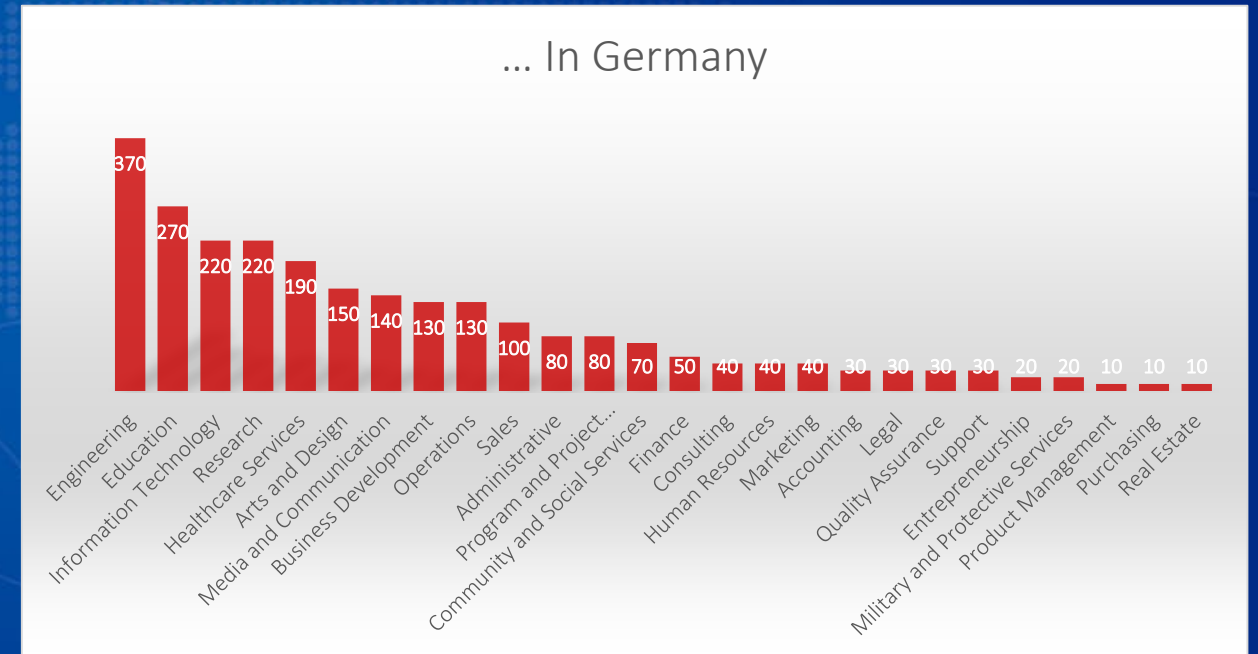


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# Migration data innovation potential II: Characteristics



Example of highly-skilled migrants using LinkedIn advertising platform



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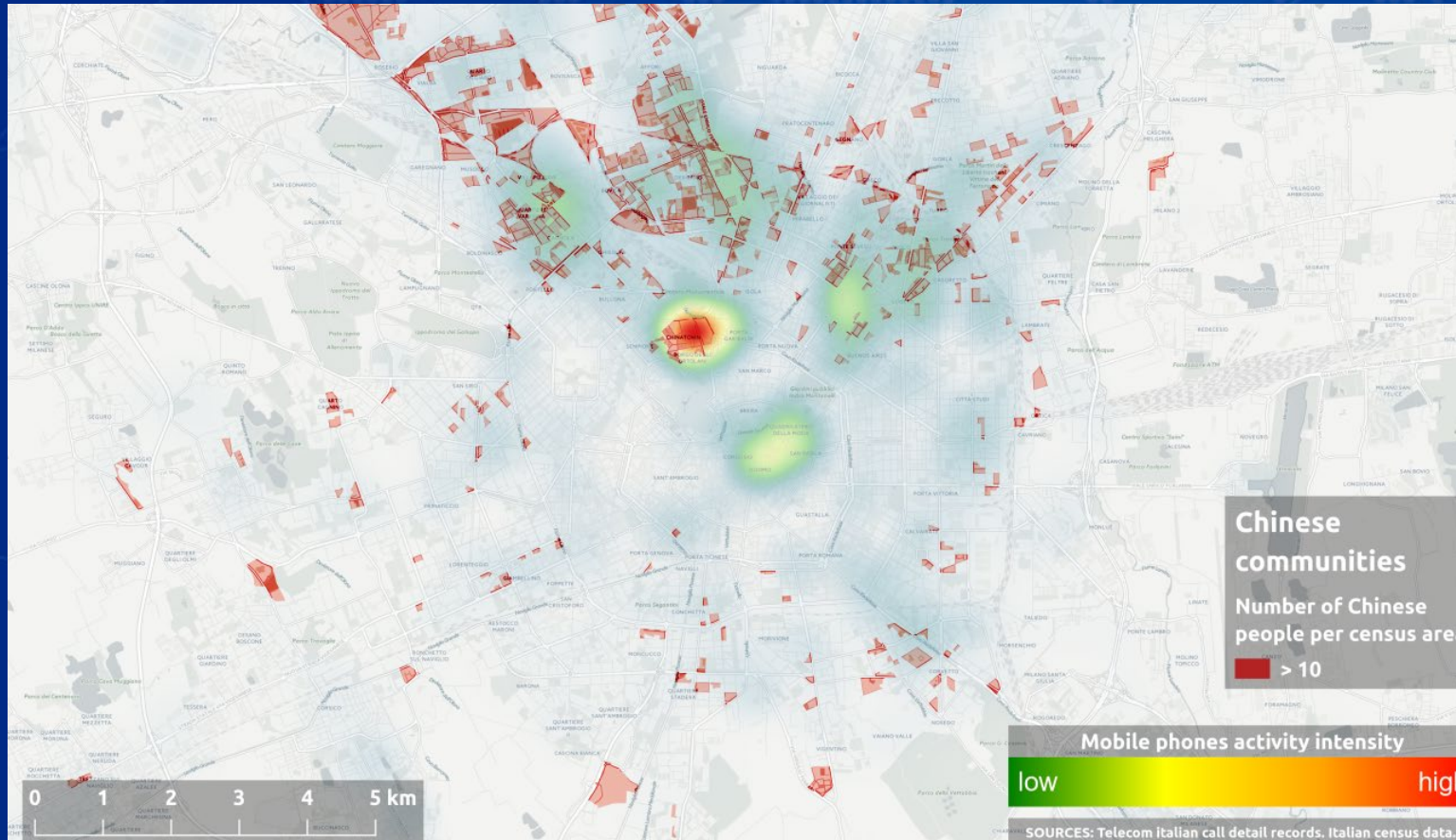


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# Migration data innovation potential III: Granularity (space)



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



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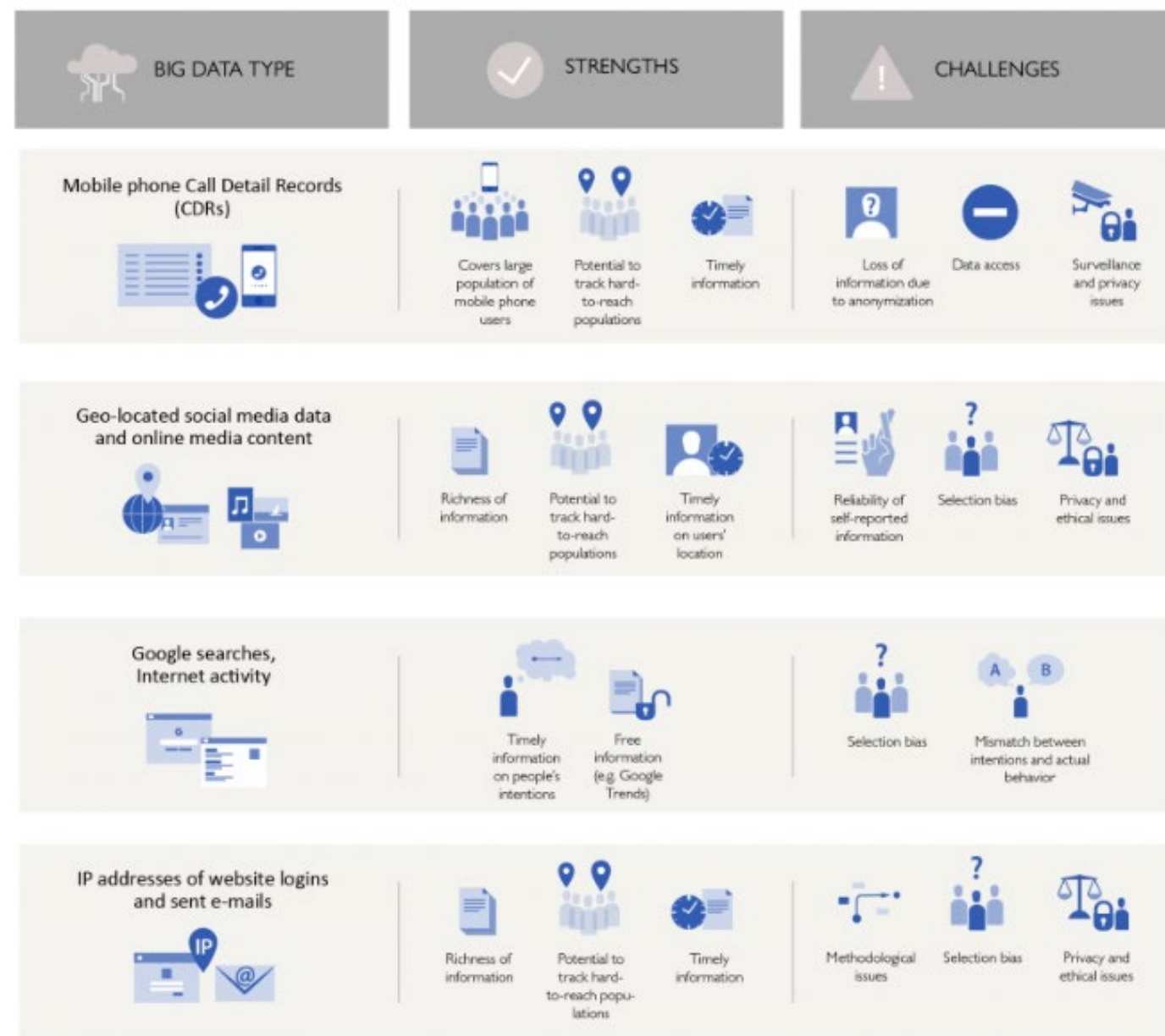
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# Challenges

- Data access/Continuity
- Confidentiality
- Security/Ethical issues
- Methodology (selection bias)
- Reliability
- Definitions
- Fragmentation



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# Harnessing data innovation for migration: The Big Data for Migration Alliance (BD4M)

- Launched on 25 June 2018 in Brussels
- Convened by the EC KCMD and IOM's GMDAC
- Aim: Foster data innovation for migration analysis & policymaking through *partnerships*



Launch of the Big Data for Migration Alliance, Joint Research Centre, Brussels, 25 June 2018  
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# Big Data for Migration Alliance (BD4M)

## Main areas of work:

### a) Awareness-raising and knowledge-sharing

- Repository of big data & migration projects
- Organization of regular workshops (Global South)
- Creation of a network of 'data stewards'

### b) Capacity-building

- Preparation of guide and training materials
- 'Study visits' and exchange of experiences across countries

### c) Policy-oriented analysis

- Exploring EU/global frameworks to sponsor applied research (e.g. issuing data challenges)
- Working paper series



Launch of the Big Data for Migration Alliance, Joint Research Centre, Brussels, 25 June 2018. © European Commission 2018



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# Data innovation and the Global Compact for Migration

- Historic opportunity to make real progress on migration data
- Better data on migration will be essential to designing forward-looking policies and balance the public debate on migration
- Full awareness of data opportunities and limitations essential to inform policies
- New data sources and innovative methodologies: a potential we cannot ignore



UN Photo/Mark Garten | Miroslav Lajčák, President of the 72nd Session of the United Nations General Assembly (l), stands with ambassadors Juan José Gómez Camacho of Mexico (c) and Jürg Lauber of Switzerland (r), co-facilitators of negotiations on the global compact for safe, orderly and regular migration, at UN Headquarters in New York, 13 July 2018.



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