Mobile Positioning Data Examples of Statistics Projects from Around the World

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MPD Task Team

Questions you might have when starting out exploring MPD

1

Who has the potential to use MPD for statistics?

2

Is there an MPD project near me?

3

Where can you turn to for knowledge-sharing?

Countries using mobile phone data analytics to support the COVID-19 response

Source: GSMA

Sweden
Finland
Norway
Belgium
Denmark
Estonia
United Kingdom
Germany
Czechia
France
Slovakia
Spain
Austria
Portugal
Romania
Italy
Greece
Mexico
Morocco
Haiti
Benin
Nigeria
Curacao
Gambia
Colombia
Burkina Faso
Rwanda
Ecuador
Ghana
DRC
Malawi
Brazil
Mozambique
Chile
Lesotho
Argentina
South Africa
China
Japan

https://www.gsma.com/betterfuture/aiforimpact/2021report

positium
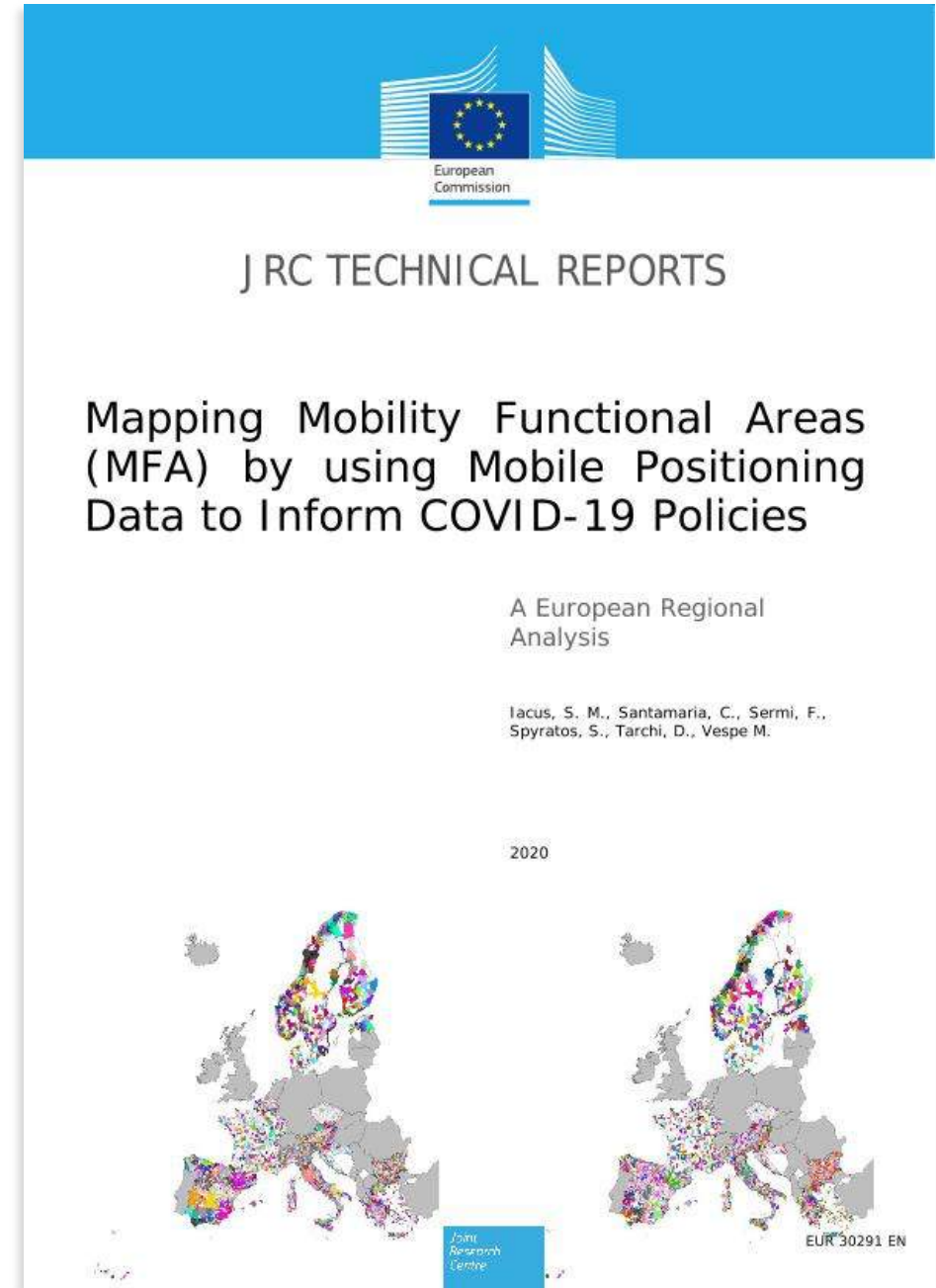
COVID-19 population mobility project by European Commission Joint Research Centre (JRC)

During the COVID-19 pandemic, mobile phone data analysis was conducted in several countries around the world to provide insight into adherence to mobility restrictions and change of residents (urban-rural movement)

Example work from European Commission based on aggregated mobile phone data from 16 EU countries
https://ec.europa.eu/jrc/en/publication/human-mobility-and-covid-19-initial-dynamics

JRC TECHNICAL REPORTS

Mapping Mobility Functional Areas (MFA) by using Mobile Positioning Data to Inform COVID-19 Policies

A European Regional Analysis

Iacus, S. M., Santamaria, C., Sermi, F., Spyratos, S., Tarchi, D., Vespe M.
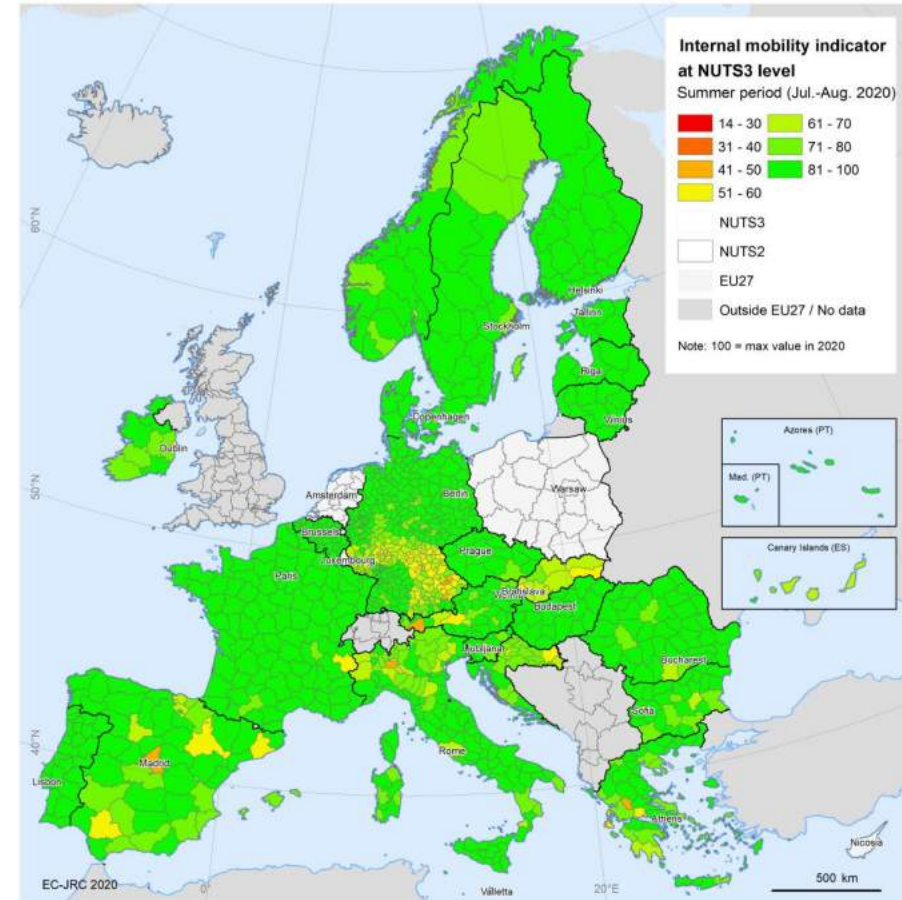
2020

EUR 30291 EN

COVID-19 population mobility project by European Commission Joint Research Centre (JRC)

The primary dataset used here is a combination of the data provided by the Mobile Network Operators (MNO) in 22 EU Member States plus Norway.

No data were made available for Cyprus, the Netherlands, Luxembourg, Malta and Poland

The data definition and spatial resolution varies by operator, as does the time coverage of the data provided

Average internal mobility by NUTS3 region, 1st wave of pandemic (March – April 2020); index: 100 = maximum mobility in NUTS3 region during year 2020.
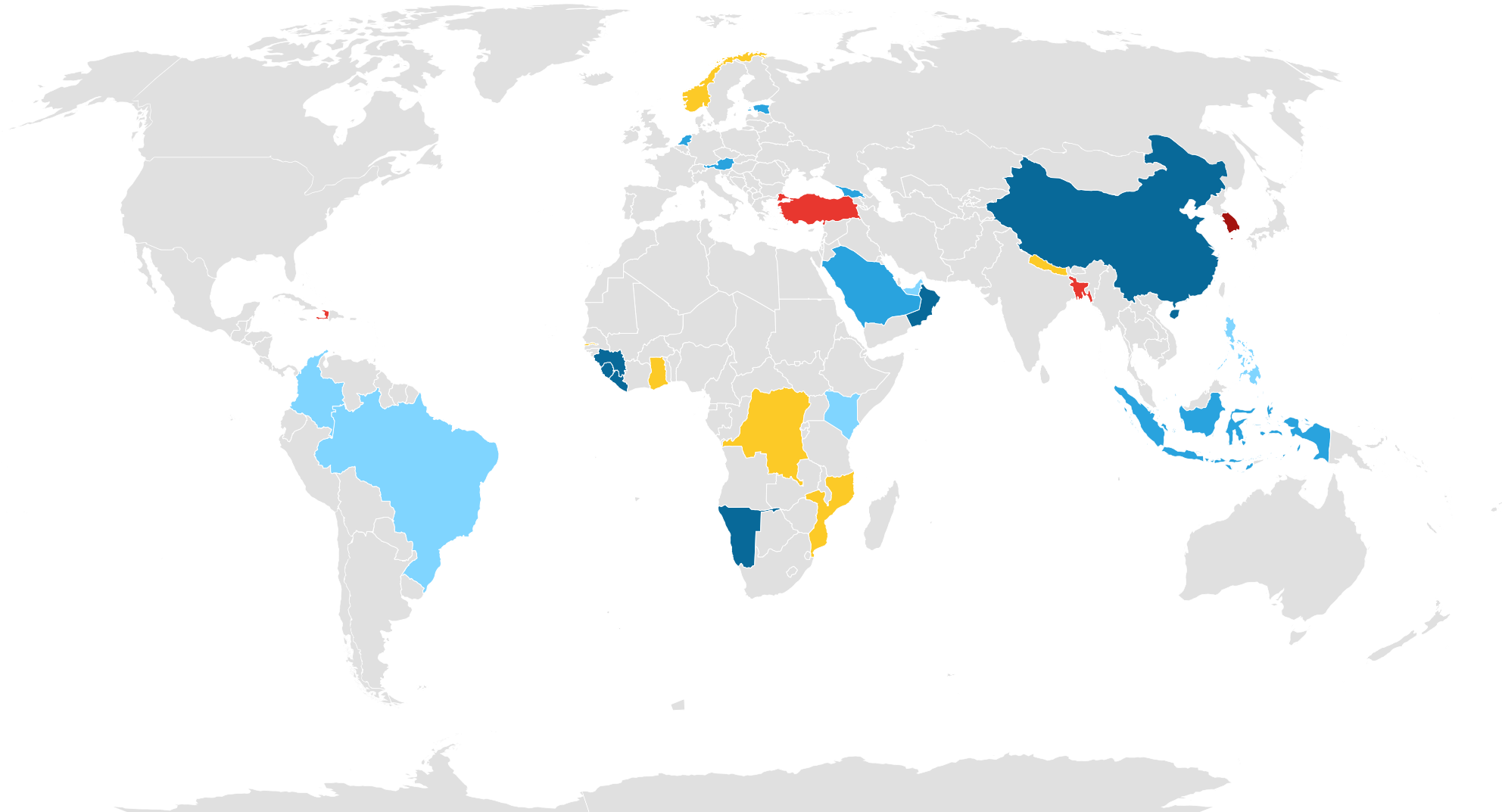

Internal mobility indicator at NUTS3 level
Summer period (Jul.-Aug. 2020)

14 - 30	61 - 70
31 - 40	71 - 80
41 - 50	81 - 100
51 - 60	

NUTS3
NUTS2
EU27
Outside EU27 / No data

Note: 100 = max value in 2020

Azores (PT)
Mad. (PT)
Canary Islands (ES)

EC-JRC 2020

500 km

Case Study countries covered by MPD Task Team

MPD Projects Analyzed in the UN Methodological Guides around the world

- Tourism
- Population
- ICT use
- Migration
- Disaster
- Transport & Commuting

MPD projects in MPD Methodological Guides cover

29%

of land area

of the world

MPD projects in MPD Methodological Guides cover

50%

of population

of the world

Biggest

China

Biggest in the World

9,596,960 km^2
1,397,715,000 pop

Indonesia

Biggest in the
Southern Hemisphere

1,904,569 km^2
270,203,917 pop

Smallest

Curacao

444 km^2
155,000 pop

15

years

longest-running MPD-based statistics time series in the World*
(and counting)

*In Estonia, by the central bank of Estonia
in collaboration with Positium

40

projects

started in 2020 alone

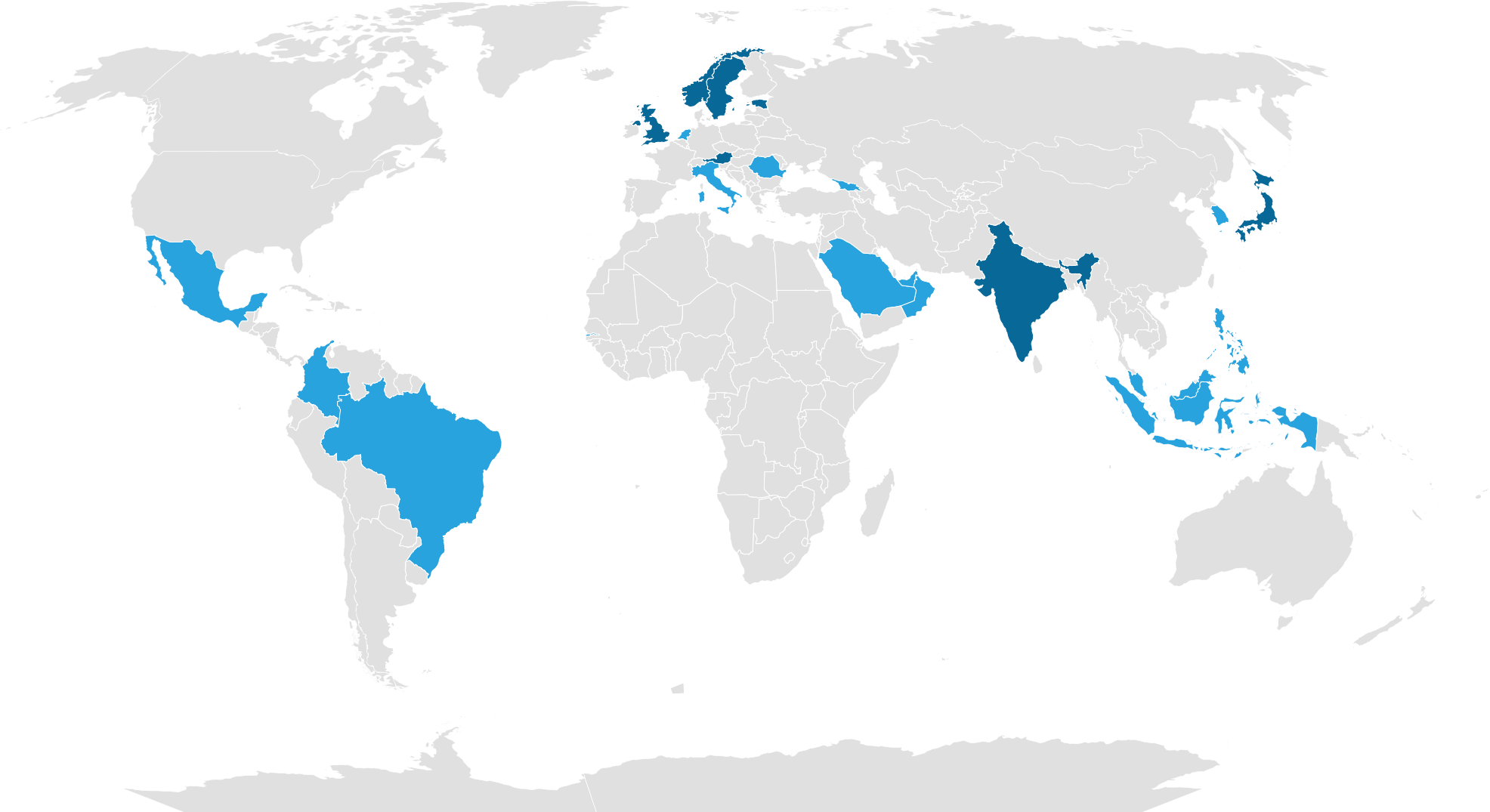*in relation with tracking mobility during the COVID-19 pandemic

2

degrees of separation

maximum from your country to the nearest country that has MPD experience

*if your neighbour has not had experience with MPD for statistics, their neighbour has probably had

UN CEBD MPD Task Team Members

Countries (NSOs)
Expert organizations

Benefits of MPD

CENTRAL BANK OF ESTONIA – MPD since 2008

4x
faster

200x
sample size

12x
countries breakdown

2.5x
more cost-efficient
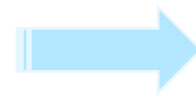
100%
less burden on tourists

Compared to surveys

Cost-Effectiveness

BPS STATISTICS INDONESIA – MPD since 2017

8000
enumerators
for domestic
tourism survey

→

8
data scientists
working on MPD

Summary

1

International community supports MPD adoption

2

There are MPD projects in every part of the world and in every topic

3

You can reach out to your neighbour or the international community for experience sharing

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