

Eurostat Feasibility Study: The Use of Mobile Positioning Data for Tourism Statistics

Margus Tiru - Positium LBS

Rein Ahas - University of Tartu, Estonia
& University of Ghent, Belgium

Janika Raun - University of Tartu



Tourism Statistics

Number of visitors, countries

Number of nights spent

Number of days present

Duration of trips

Purpos of trip

Expenditures

...

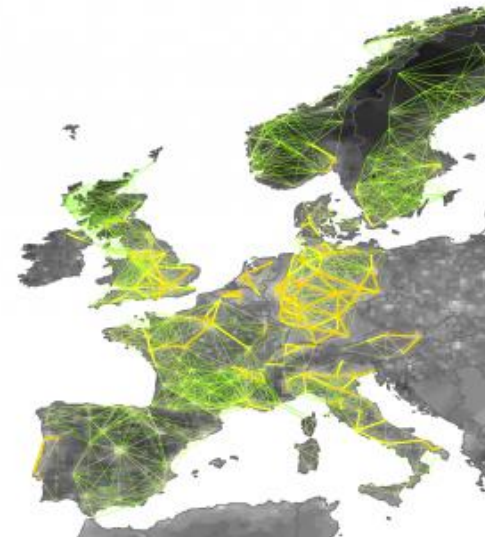
Regulation concerning European statistics on tourism (Reg. 692/2011/EU)



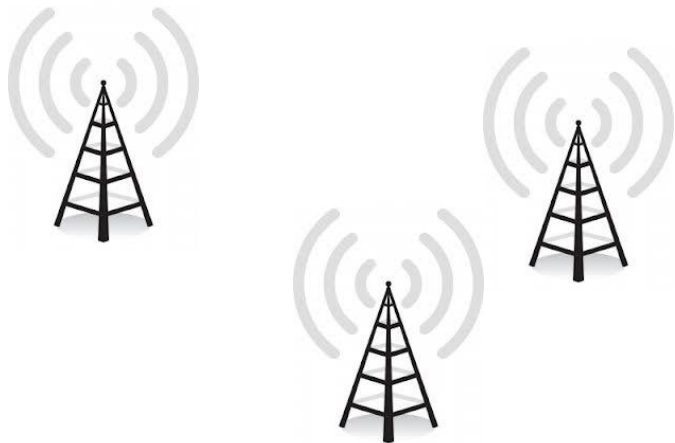
Eurostat:

It is very complicated to collect tourism statistics in

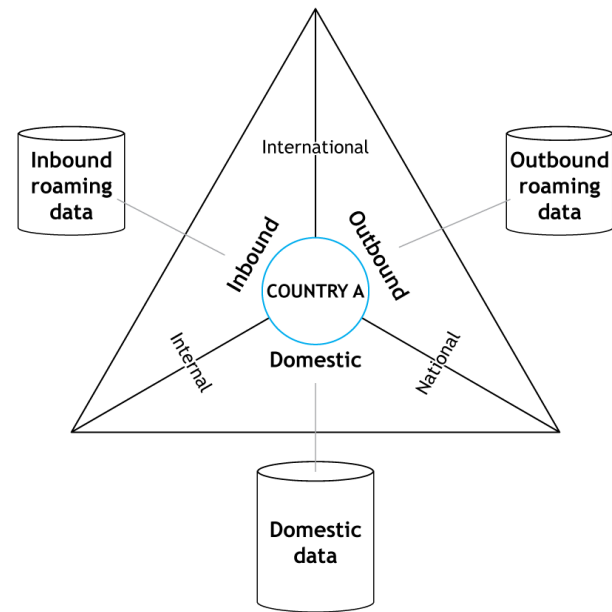
- Globalising and mobile world
- Europe with open borders



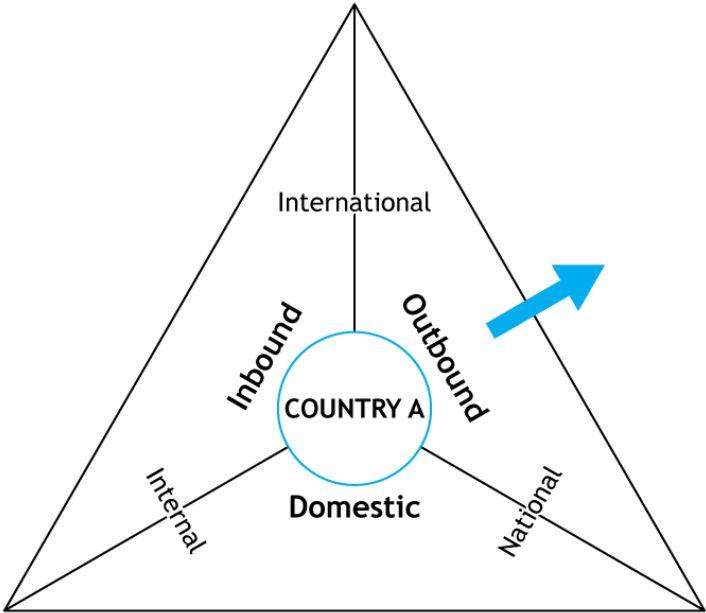
Mobile Network is good source for measuring visitor flows between countries



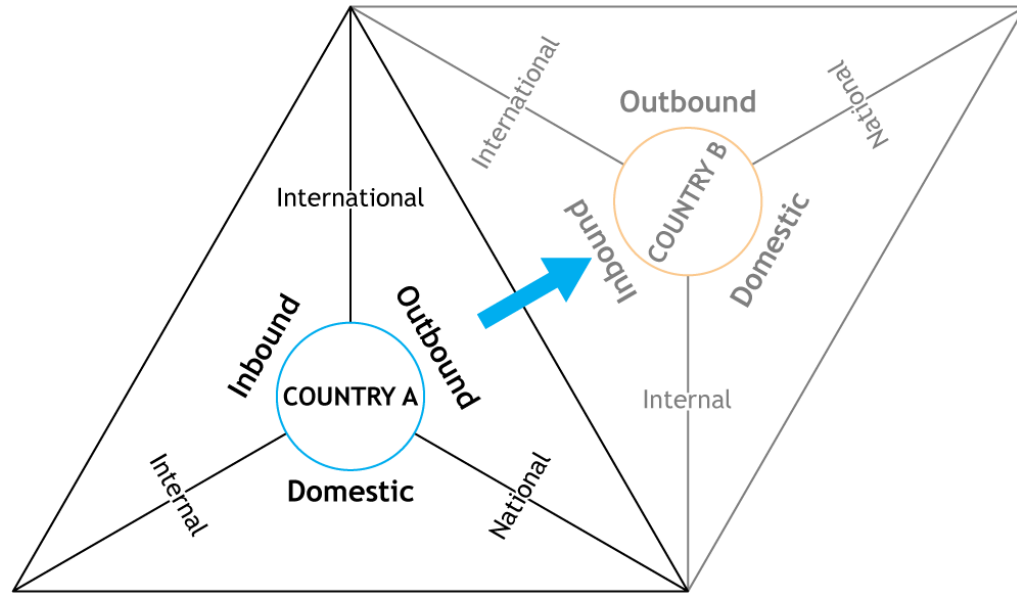
Roughly, the same forms of mobile positioning data exist



Country A's outbound tourism...



... is country B's inbound tourism



Objectives:



To explore the possibilities and limits of using mobile positioning data in the production of tourism statistics:

Access to data

Legislation

Methodology

Eurostat contract no. 30501.2012.001-2012.452



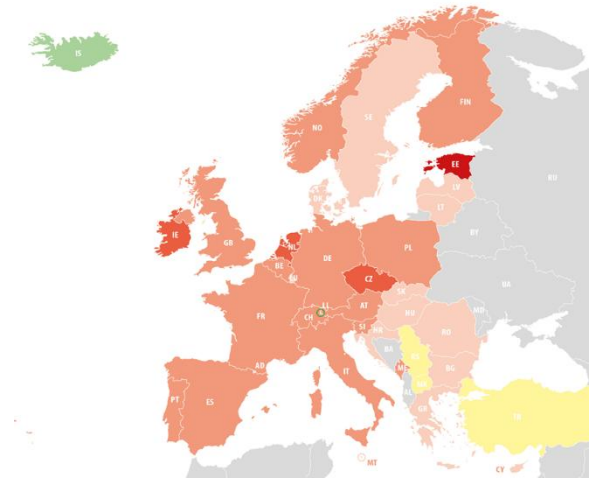
Mobile phone data for official statistics

2008 - Estonia - Central Bank „Balance of payment calculation“ Positium LBS

2010 - the Netherlands - „Time patterns, geospatial clustering“ Statistics Netherlands

2012 - Czech Republic - Czech Tourism

2014 - Ireland - „Mobile data for tourism Statistics“ The Central Statistics Office Ireland (CSO)



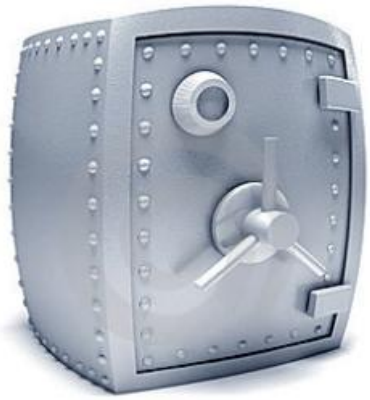
Mobile based statistics:



Most initiatives by public authorities

Some „data business“ initiatives, but
business models are complicated

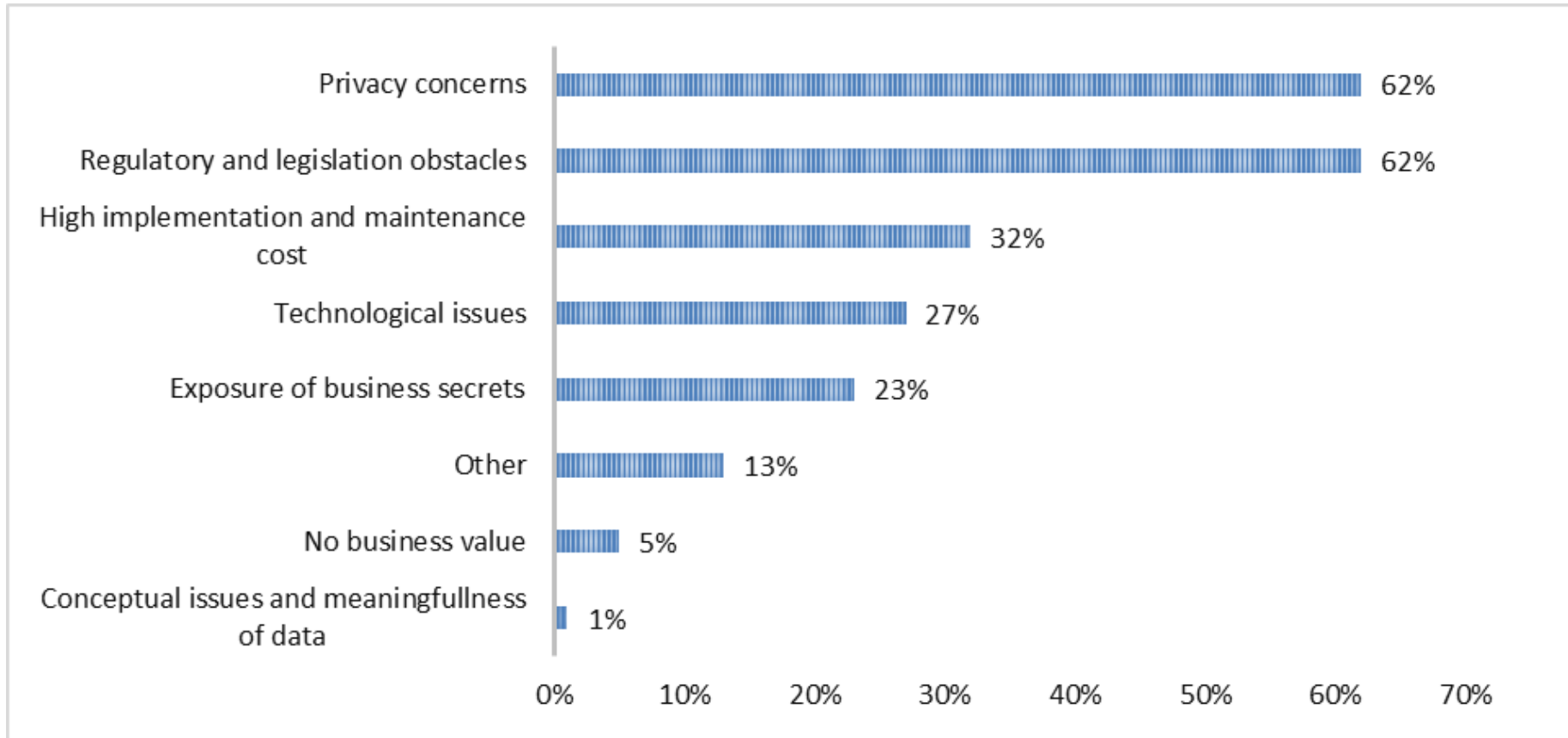
MNOs looking for new revenues



Feasibility of Access to data

- Questionnaire survey with European Statistical Offices and Mobile Network Operators
 - 64% of respondents interested
 - 17% approached mob. dat.
 - 9% not interested
- Interviews with major stakeholders

Main Obstacles to Access



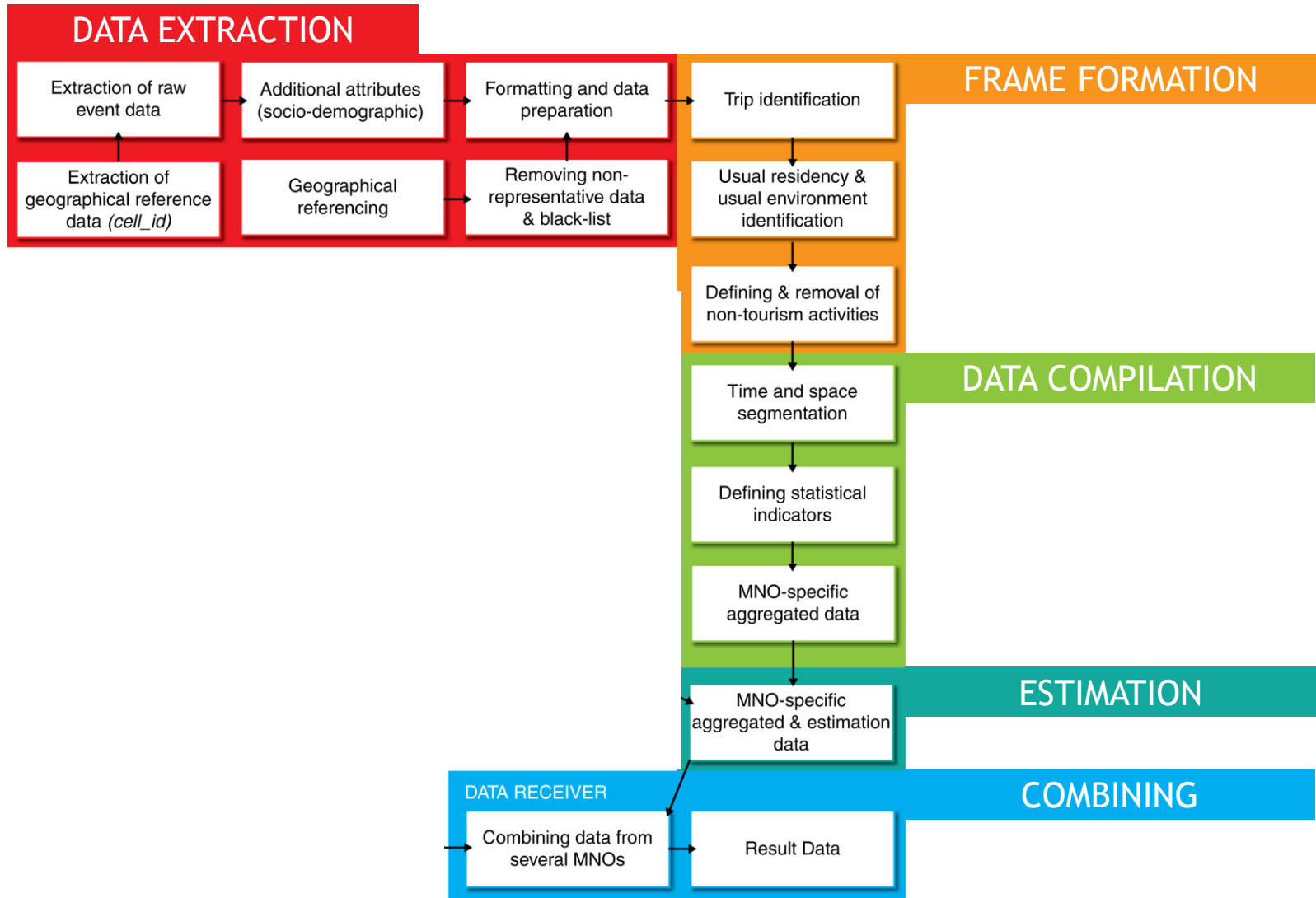
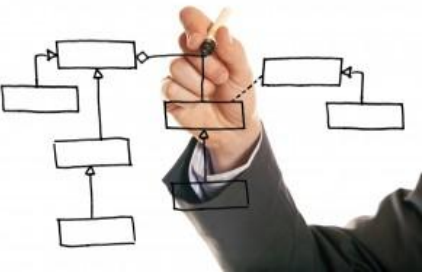
Regulations -The main 'barrier' for accessing the data



- Data Protection Directive (Directive 1995/46/EC and its successor, the General Data Protection Regulation)
- Electronic Privacy Directive (Directive 2002/58/EC)
- ~~• Data Retention Directive (Directive 2006/24/EC)~~

- Regulation on European statistics (Reg. 223/2009/EC) and Regulation concerning European statistics on tourism (Reg. 692/2011/EU)

Methodology



Limitations of the data source

Mostly unknown purpose of the trip

No expenditure information

Mostly unknown means of transportation

Usually no socio-demographic breakdown



Quality



Validity - How well does mobile positioning represent real-world facts? - Looking at the official definitions

Accuracy - Over- and under-coverage as penetration and use of phones, cost of calls...

- Cross-border radio coverage...

Conclusion:

- **At present, mobile positioning data cannot replace all traditional sources of tourism statistics.**
- **Mobile data is important source for quantitative measuring tourism in regions with open borders (=EU)**
- **Timeliness of data** - automatic, digital data collection is source for new statistical products as monitoring systems, geomarketing...
- **Eurostat started to work to get access to mobile phone based tourism statistics.**

Thank You!

rein.ahas@ut.ee

mobfs.positium.ee