UNIVERSITY OF TARTU

MARA
Mobility and Accessibility
in Rural Areas

Interreg
Baltic Sea Region

EUROPEAN UNION
EUROPEAN
REGIONAL
DEVELOPMENT
FUND

EU STRATEGY FOR THE BALTIC SEA REGION
FLAGSHIP

Visualising actual mobility flows by using different digital datasets:

Applying Population Mobility Monitor in Tartu and its surroundings

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TARTU

Applying Population Mobility Monitor (PMM) in Tartu and its surroundings

The aim is to provide a **platform for visualising** actual mobility flows based on **digital mobility data sources** and

… thus aid public authorities in designing their mobility solutions.

PMM is one of the tools that is developed in the frame of the MARA project.
www.mara-mobility.eu

Population Mobility Monitor

STUDY AREAS:

Tartu county and Tartu city in Estonia.

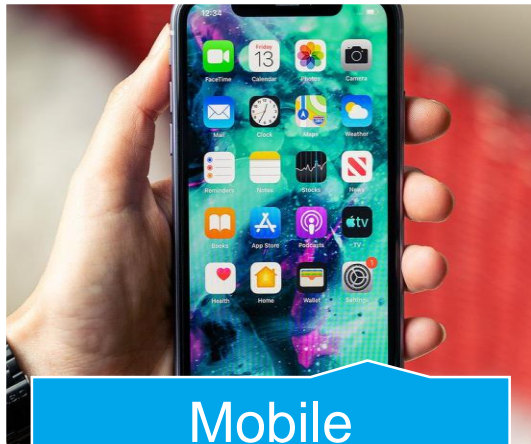Administrative district Ludwigslust-Parchim in Mecklenburg-Vorpommern, Germany

Population Mobility Monitor – TARTU

DATA

Four different open source mobility data sets.

Origin-Destination (OD) level data (except Tartu City public transport)

Data on Tartu county level

Data on Tartu city level
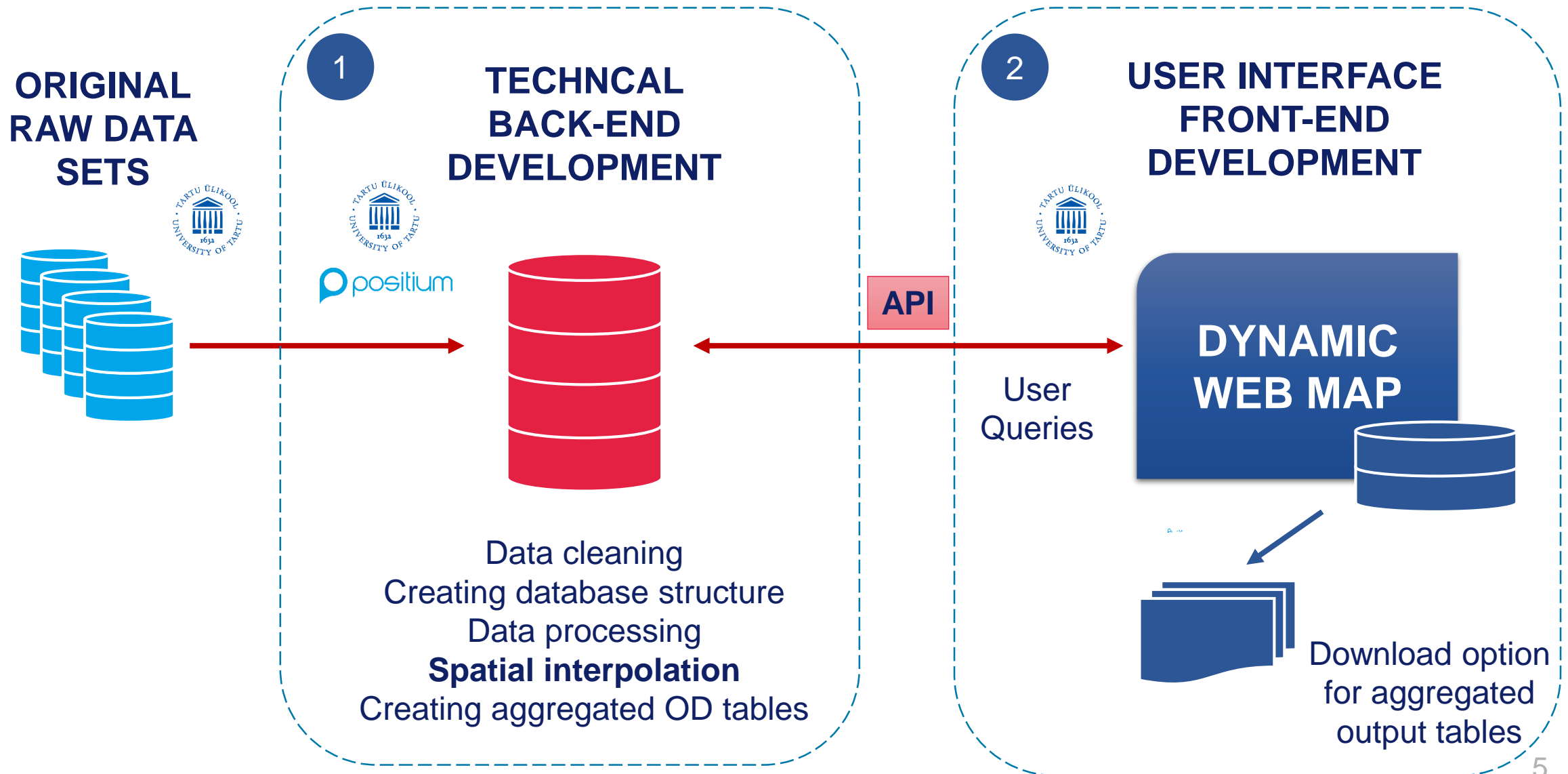

Mobile positioning

Public transport

Bike share

Public transport

PMM basic architecture

ORIGINAL RAW DATA SETS

1 **TECHNCAL BACK-END DEVELOPMENT**

2 **USER INTERFACE FRONT-END DEVELOPMENT**

positium

API

User Queries

DYNAMIC WEB MAP

Data cleaning
Creating database structure
Data processing
Spatial interpolation
Creating aggregated OD tables

Download option for aggregated output tables
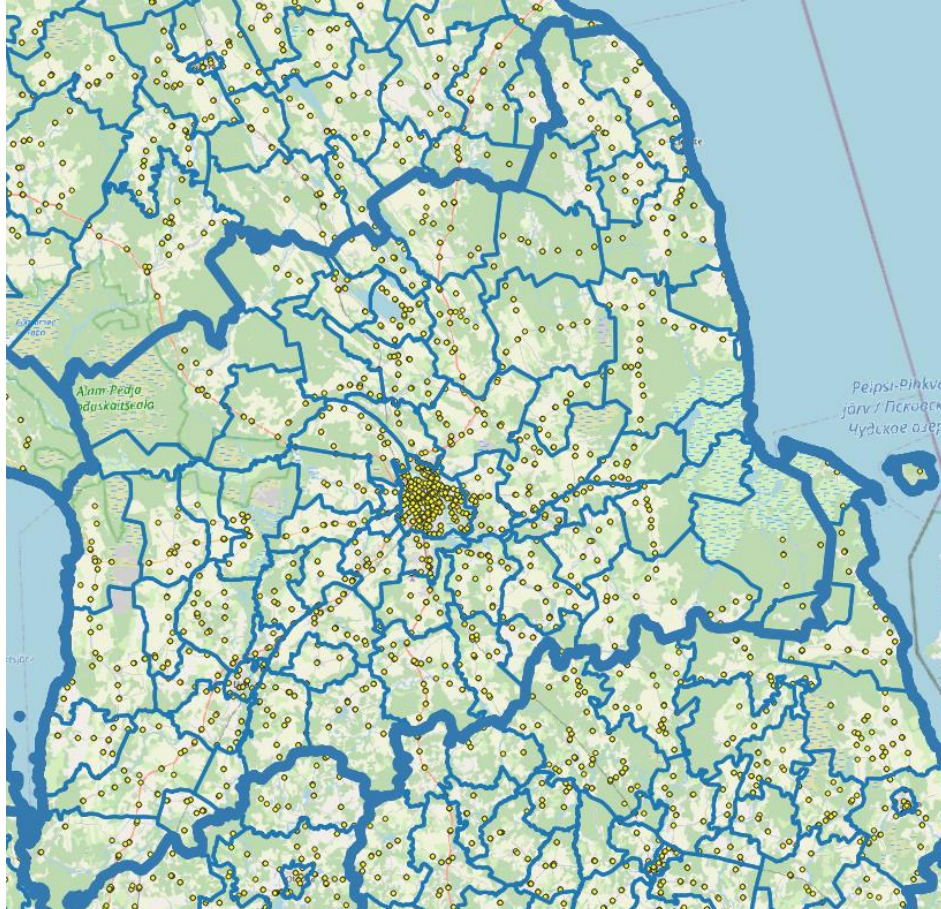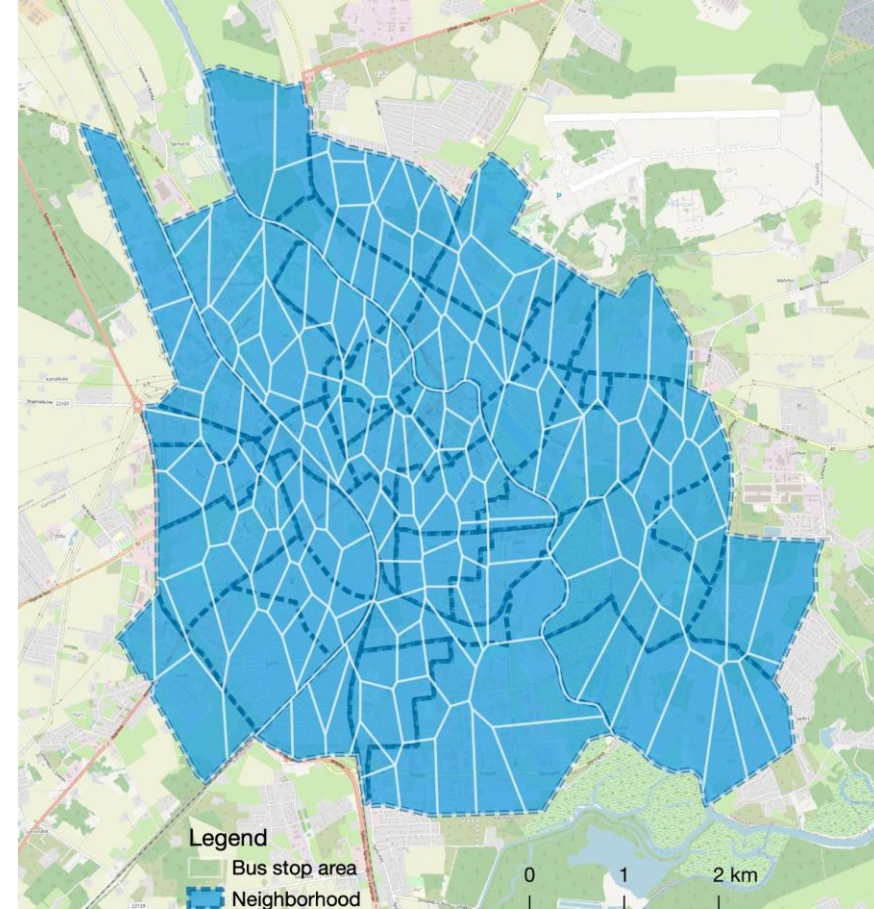
Interpolating data

Territorial communities
on Tartu county level

Neighbourhoods
on Tartu city level

Mobility data in Tartu

Data	Time period	Original Spatial resolution	Spatial resolution in PMM web map	Original temporal resolution	Temporal resolution in PMM web map	Comments
Tartu city bike share data	01.07.2019 - 31.12.2019	Bike station	City neighbourhood	second	Hour, day, month	OD known
Tartu city bus data	01.07.2019 - 31.12.2019	Bus stop	City neighbourhood	minute	Hour, day, month	Start stop and next validation is known
Tartu county bus data	01.01.2017 - 31.12.2019	Bus stop	Territorial community	minute	Hour, day, month	OD known
Commuting data from mobile positioning	01.01.2017 - 01.03.2018	Territorial community (kant)	Territorial community	month	Month	OD known

Intended outputs of the visualisation:

- A dynamic public web map with spatial visualisations of travel flows between origin and destination areas.

- Possibility to select data types and timeframes of interest for visualisation.

- Visualising per input data source covering the full temporal scale of input data;
    - the total number of people starting/ending their journey by time per spatial unit;
    - total number of people moving between spatial units (municipalities, neighbourhoods) per time unit;
    - combine different input data sources from the region.

- Possibility to download selected output data sets.

Let's have a look!

https://mara.ut.ee

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