

Estonian COVID-19 mobility analysis tool

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Background

- Urgent need for a tool to support decisionmaking of the Estonian government COVID-19 crisis committee
- Positium has been providing mobility information from mobile positioning data (MPD) for 13 years
- Traditional data sources won't work in the new pandemic situation

Mobility analysis tool

- MPD - passive mobile positioning data.
- Mobile network cell level resolution
- Anonymised mobile network log data – GDPR compliant
- Methodology by Positium and Statistics Estonia
- In house calculation by 3 mobile network operators
- Sample covering 100% Estonian mobile subscribers
- 6 mobility index methodologies prepared
- 1 mobility index selected for the analysis tool



Mobility index

- Stationary cell phones + 95% stationary cell phones
- Actively moving cell phones

Parameters calculated for every subscriber:

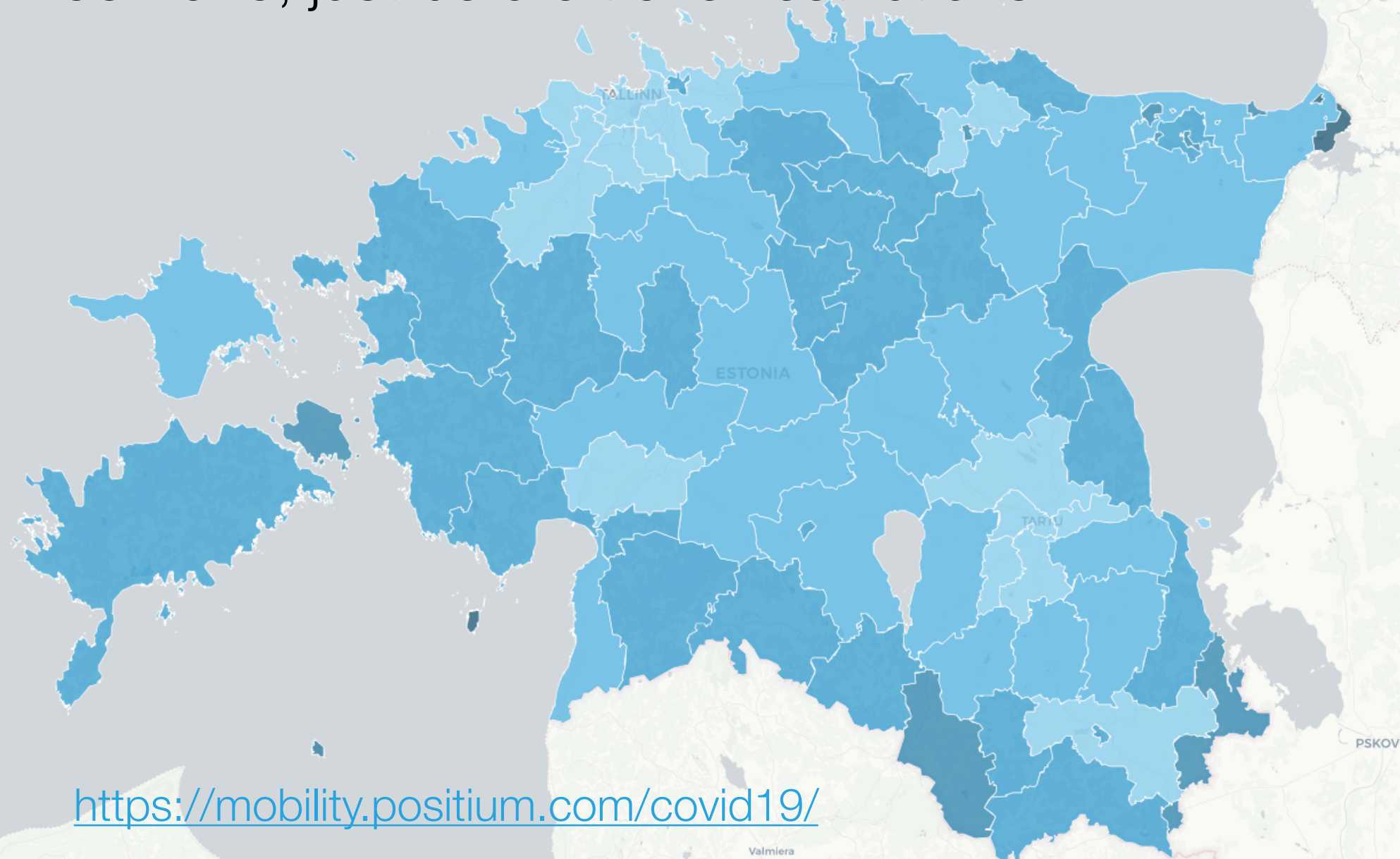
- Main location (range: 500m in urban context, up to 3 km in rural)
- Time away from the main location
- Range from the main location
- No of network cells visited

The share of local and 95% local cell phones 12.03.2020, just before travel restrictions

• Municipality
● County

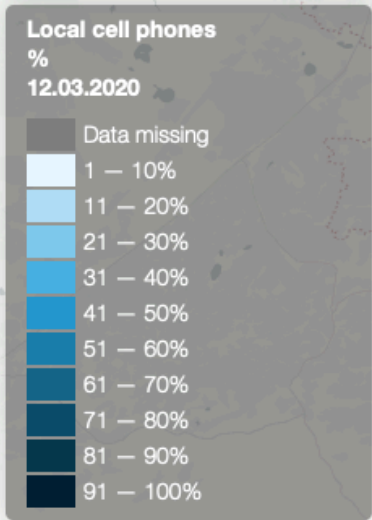
Choose a date
12.märts.2020

Info



Kuusalu vaid

Moving cell phones	64%
Moving and Non-moving cell phones	36%



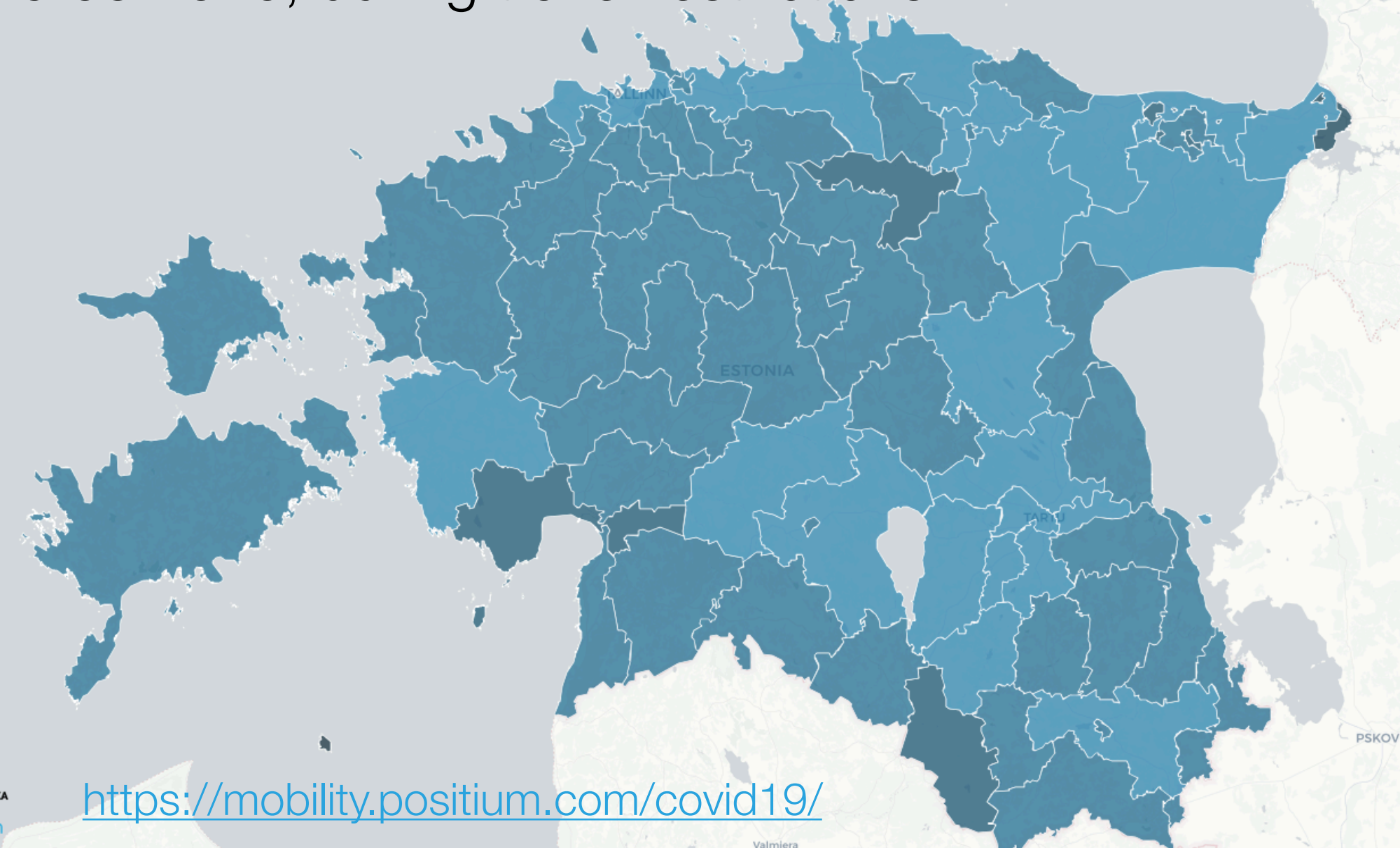
<https://mobility.positium.com/covid19/>

The share of local and 95% local cell phones 29.03.2020, during travel restrictions

• Municipality
• County

Choose a date
29.märts.2020

Info



Kuusalu vald

Moving cell phones	43%
Moving and Non-moving cell phones	57%

Local cell phones
%

29.03.2020

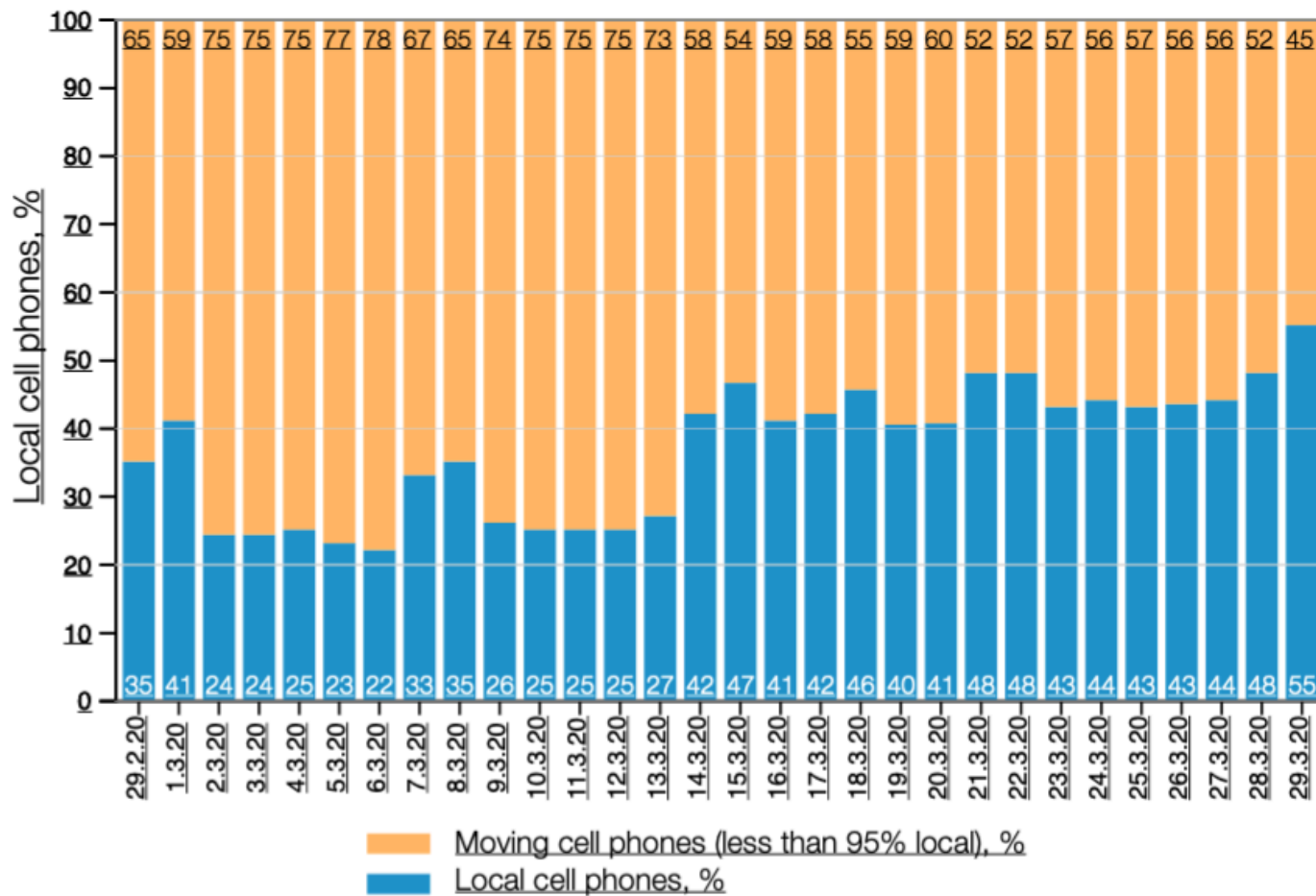
■	Data missing
■	1 – 10%
■	11 – 20%
■	21 – 30%
■	31 – 40%
■	41 – 50%
■	51 – 60%
■	61 – 70%
■	71 – 80%
■	81 – 90%
■	91 – 100%



<https://mobility.positium.com/covid19/>

■ Stationary + 95% stationary cell phones
■ Actively moving cell phones

Tallinn



Conclusions

- MPD came quickly into focus when there was an urgent need for reliable and extensive knowledge on population mobility
- MPD has been used for transportation planning, official statistics and other applications over 13 years
- MPD has a potential for transportation & mobility statistics, there is a range of applications

Thank You!

Questions?

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