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

https://mobility.positium.com/covid19/
The share of local and 95% local cell phones 29.03.2020, during travel restrictions

https://mobility.positium.com/covid19/
Stationary + 95% stationary cell phones

Actively moving cell phones

Tallinn

Local cell phones, %

Moving cell phones (less than 95% local), %

Local cell phones, %
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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