# Monitoring mobility during country lock-down

Statistics Estonia and Positium

Mart Mägi Director General

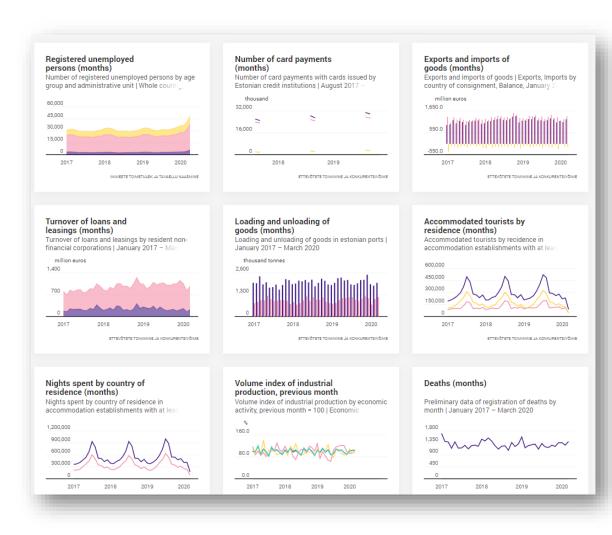




#### Statistics Estonia as central co-ordinator of data

Statistics Estonia was appointed immediately by the Cabinet as the central co-ordinator and producer of all key social and economic indicators:

- health data: COVID-19 (daily) (delivered by the Health Board);
- mobility (daily);
- consumption (daily);
- deaths (weekly);
- labour market (weekly);
- economy (monthly).

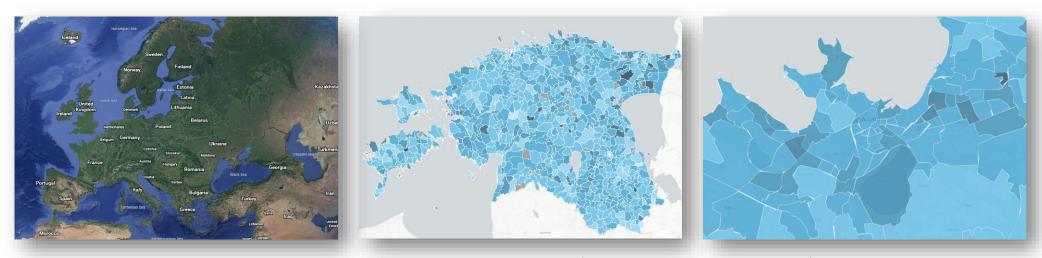




### **Mobility case**

The purpose of the mobility analysis using anonymised mobile phone data was to give an overview as requested by the Prime Minister on:

- changes in mobility after the emergency situation was declared on 12 March 2020;
- changes in mobility after 24 March 2020 "Order of the person in charge of emergency situation for imposing restrictions on the freedom of movement in public places" until the end of the emergency situation on 1 May 2020 (with special attention to areas with more cases of COVID-19).

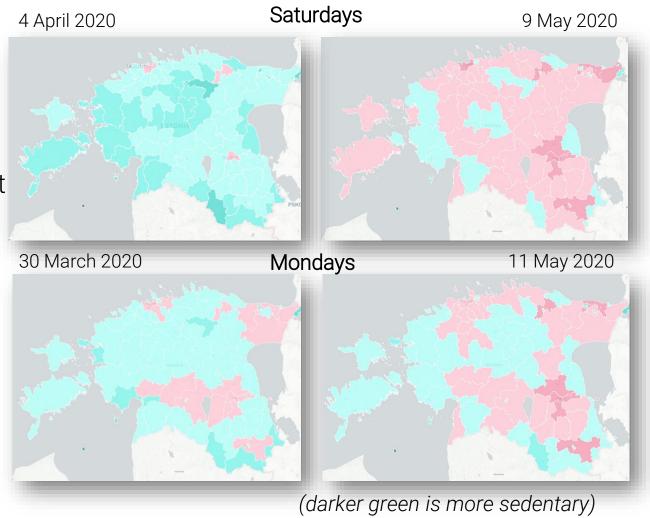


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## Daily data, information and trust building

#### % of sedentary mobile phones

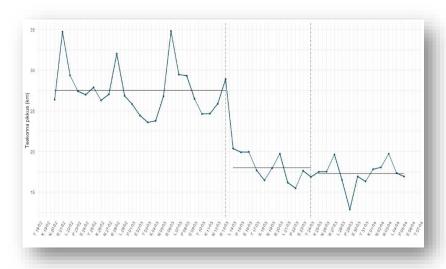
- Signal data was obtained from all mobile operators daily.
- Daily information given to the public and government on key indicators:
  - Location
  - Time spent
  - Average distance travelled
- Interviews about confidentiality and trust





# Methodology developed in co-operation with Positium and operators

- The operators first found the main location for each mobile phone number by identifying the masts that the number was connected to the longest in a 24-hour period.
- Secondly, based on different parameters, a mathematical model (mobility index) was built describing the mobility of a mobile phone number.
- Next, the time was identified during which the phone number was away from its main location.
- The results were generalised at administrative unit level. Anonymous mobile phone numbers were divided into three groups based on the time spent in an area.



Distance travelled during the day outside main location, 20.02–06.04, km per day

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#### Conclusion

- Effective communication promoting what NSOs have to offer is crucial for creating win-win partnerships with policy-makers, other government agencies and the private sector.
- Effective communication is also critical to maintain and build trust in the society when using such sensitive data as mobile phone data.
- The framework for official statistics should be enlarged to include the new roles of NSOs. The scope of the NSS is widening, as new data sources become available and the society's expectations are changing regarding what new information data and statistics can provide.
- The international statistical community could widen its role and scope, developing new partnerships to create an international data community with MNCs (Google, Airbnb, etc.).



## Thank you!

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