rOpenGov: 10 years of R packages for Open Government Data

CSDS Social Data Science Open Research Seminar
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rOpenGov

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About rOpenGov

- Started in 2010
- Winning entry in Apps4Finland 2011 competition
- Core team:
  - Leo Lahti
  - Markus Kainu
  - Joona Lehtomäki
  - Juuso Parkkinen

Joona, Leo and Markus representing rOpenGov in useR! 2017 conference in Brussels

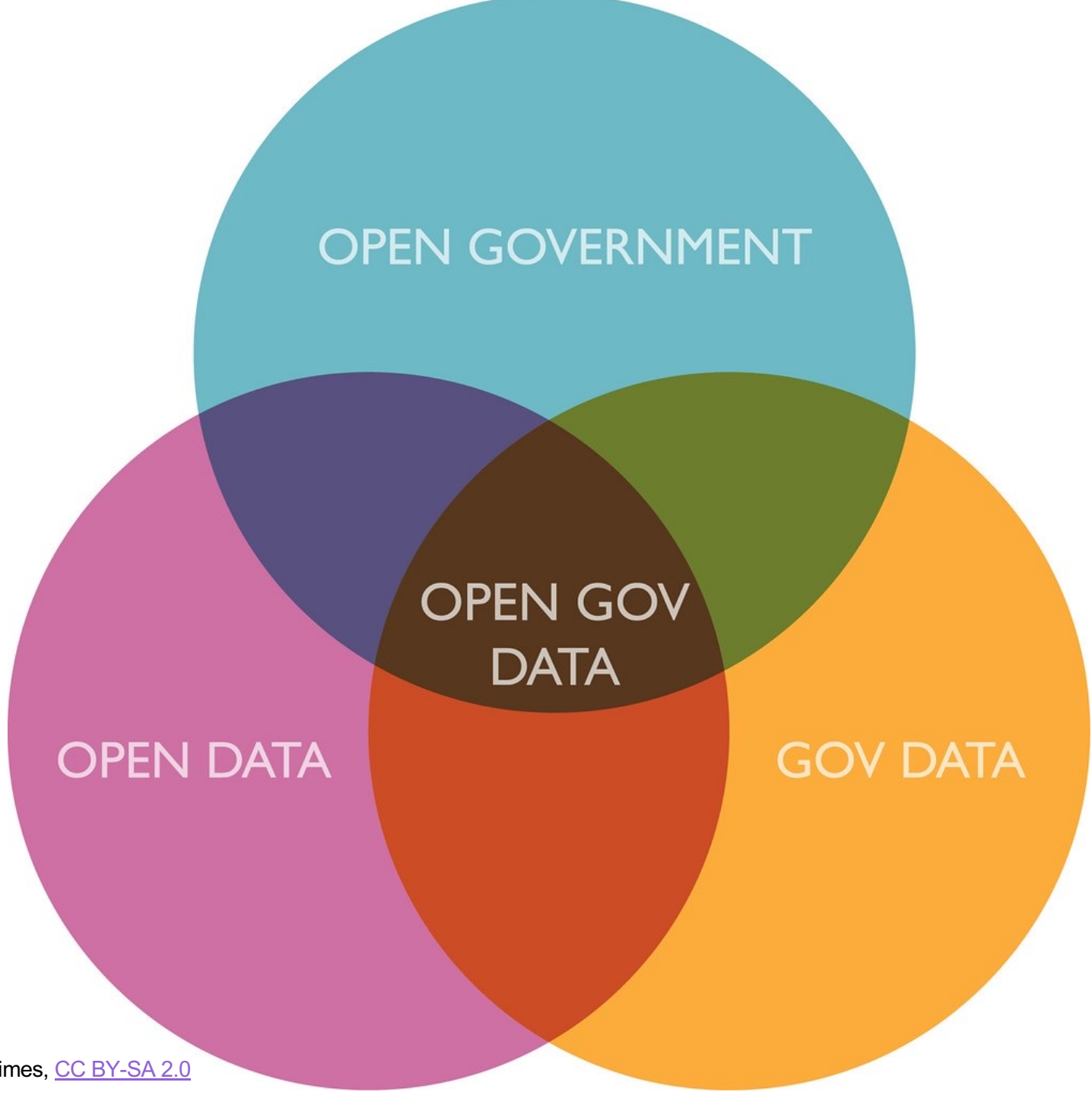
Definitions

Open data

Government Data

Open Government Data

Examples of Open Government Data



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Open + Government + Data

Open data

> Data that can be freely used, re-used and distributed by anyone, only subject to (at the most) the requirement that users attribute the data and that they make their work available to be shared as well.”

Government Data

> Any data and information produced or commissioned by public bodies.”

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Open Government Data

- Any data and information produced or commissioned by public bodies that can be freely used, re-used and distributed by anyone.

Examples of Open Government Data from OECD

- business information
  - Chamber of Commerce information, official business
- registers, patent and trademark information, public tender databases
- geographic information
  - address information, aerial photos, buildings, cadastral or land registry data, geodetic networks, hydrographical data, topographic information
- legal information
- meteorological information
  - climate data, climate models, weather forecasts
- social data
  - various types of statistics on economics, employment, health, population, public administration
- transport information
  - traffic congestion, work on roads, public transport, vehicle registration

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rOpenGov packages: Things already covered

- Geographic information
  - geofi
  - giscoR
  - regions
  - helsinki
- Meteorological information
  - fmi2
- Social data
  - eurostat
  - pxweb
  - sotkanet
  - hetu & sweidnumbr
  - *vipunen (currently unmaintained)*
- Transport information
  - *turku-package (in development)*
  - *digitransit (currently unmaintained)*

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rOpenGov packages: Things yet to be done

- ✖ business information
- ✖ registers, patent and trademark information, public tender databases
- ✖ legal information

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Use case: Tilastot kartalle[1]

- **Entry to Statistic Finland's Datamenestyjät-competition[2] 2021**
  - Easily produce choropleth maps with **leaflet** by combining **geofi**, **pxweb** and **sotkanet** packages with **Shiny** interface
  - Output working R code that the user can further edit and refine

1 "Statistics on the map"
2 "Data achievers"

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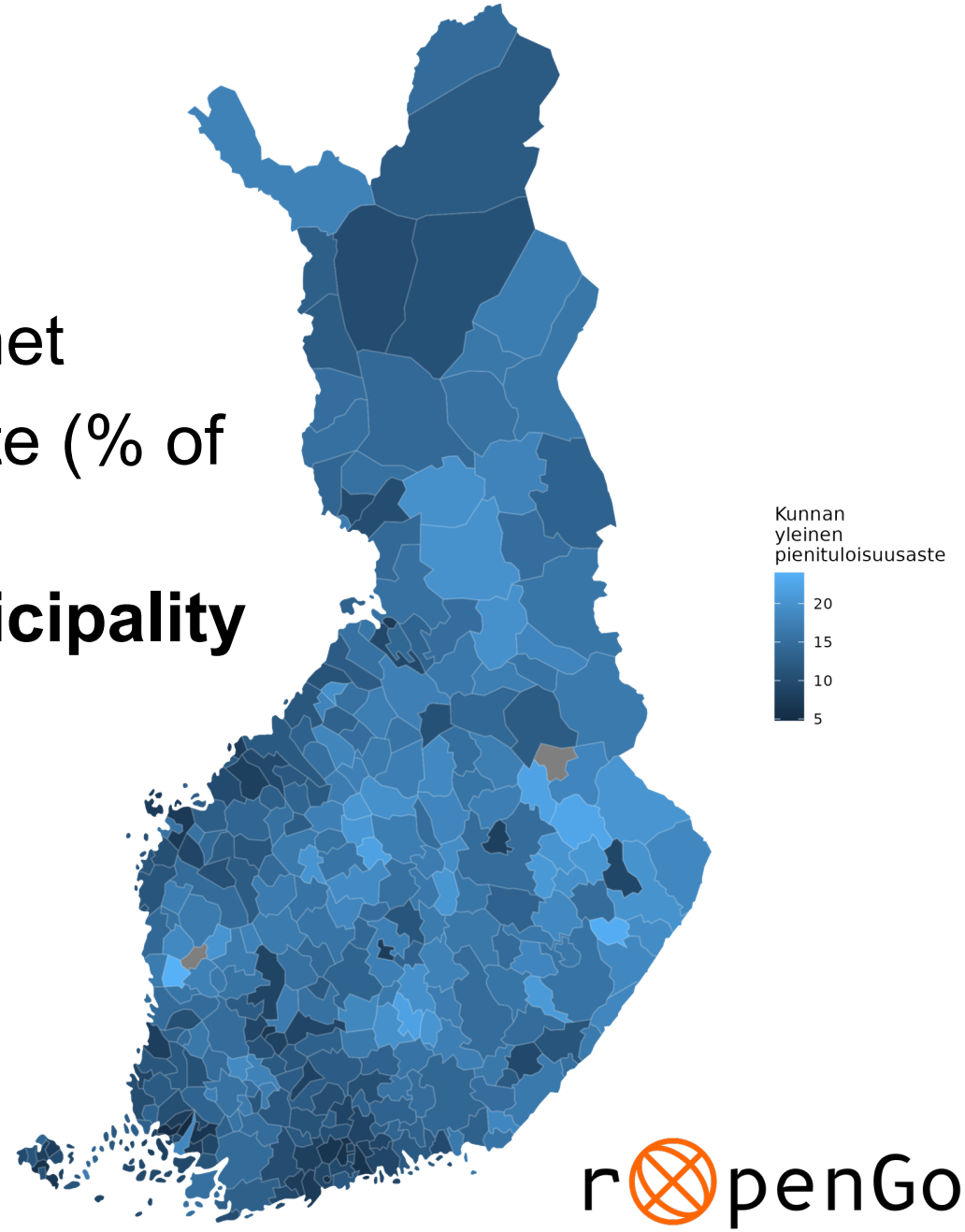
Example 1/3

- Data source: Sotkanet
- At-risk-of-poverty rate (% of total population)
- Boundaries by **municipality**
- Year: 2018



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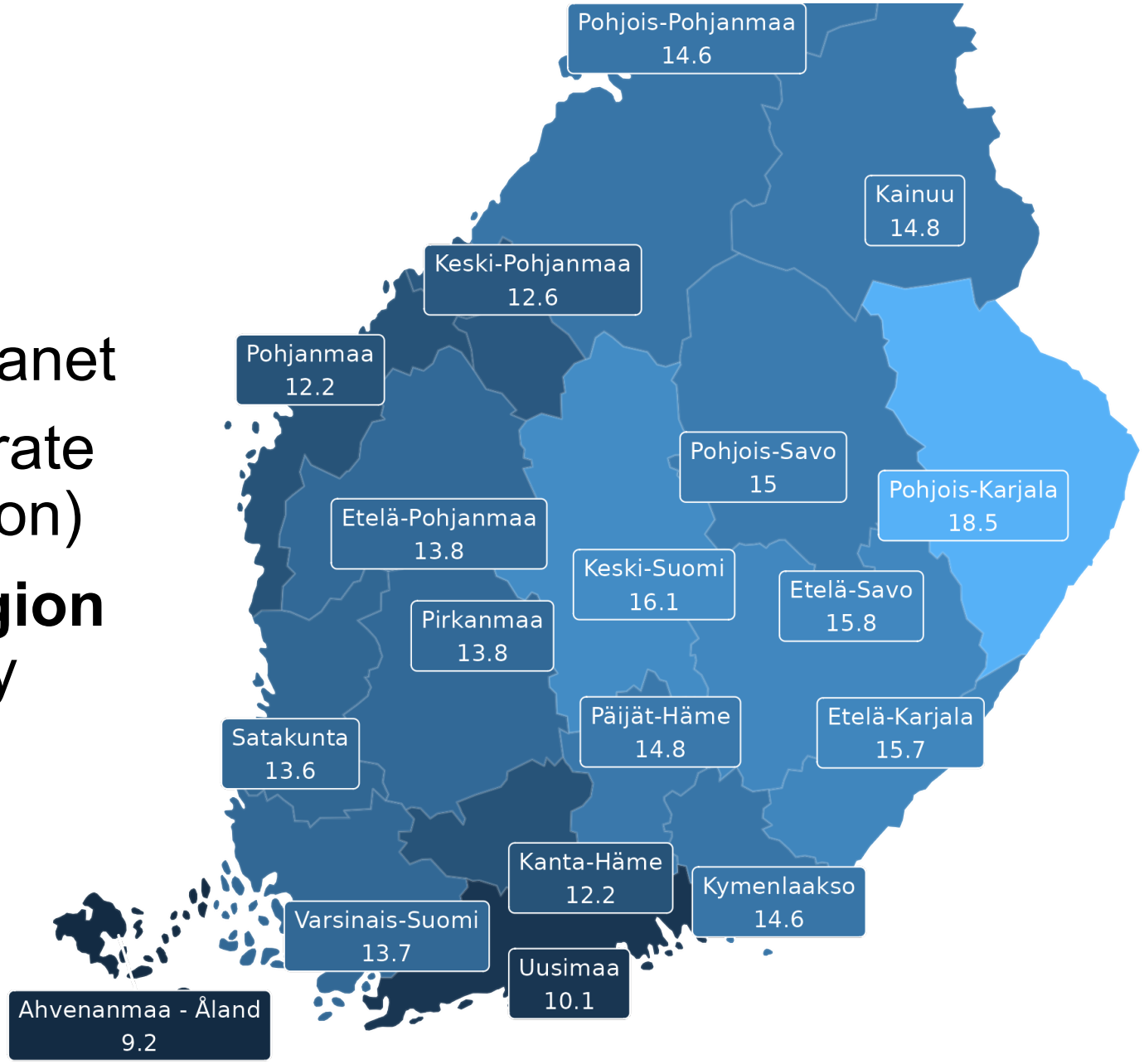
Example 2/3

- Data source: Sotkanet
- At-risk-of-poverty rate (% of total population)
- Boundaries by **region** (maakunta) - a very common level of aggregation!
- Year: 2018



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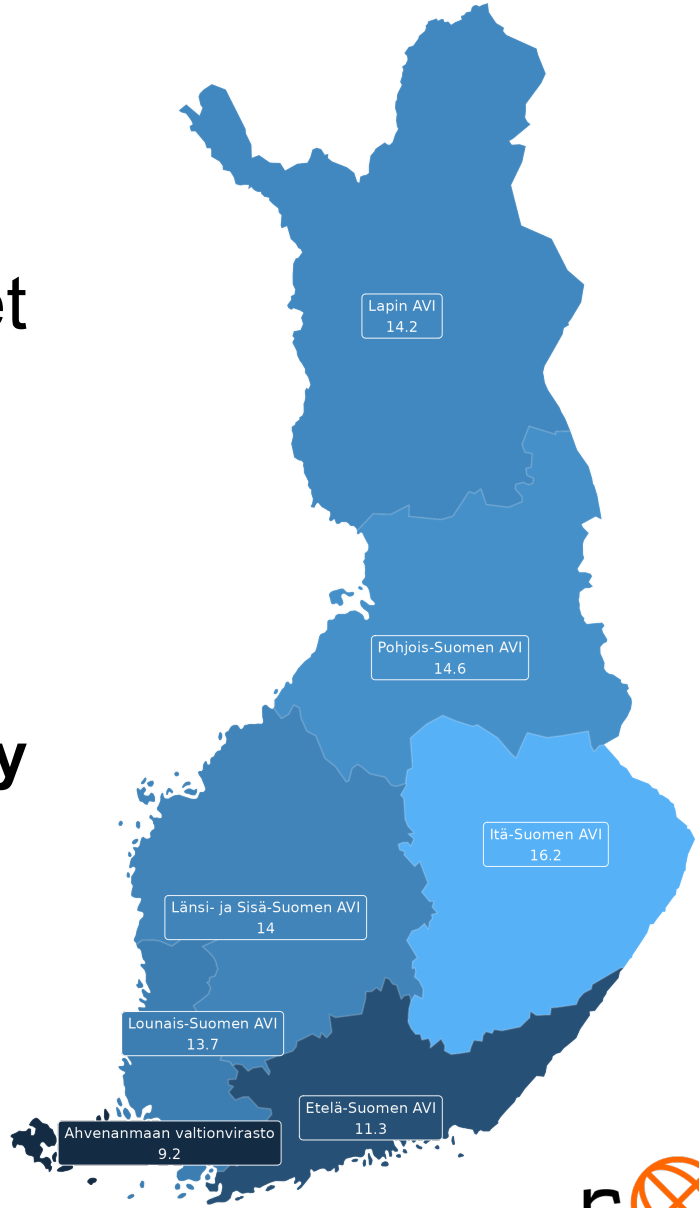
Example 3/3

- Data source: Sotkanet
- At-risk-of-poverty rate (% of total population)
- Boundaries by
  - **regional state administrative agency areas** (avi-alue) and
  - **centre for economic development areas** (ely-alue)
- Year: 2018

Kunnan yleinen pienituloisuusaste
Aggregoitu tasolle avi_name_fi
metodilla väkiluvulla painotettu keskiarvo



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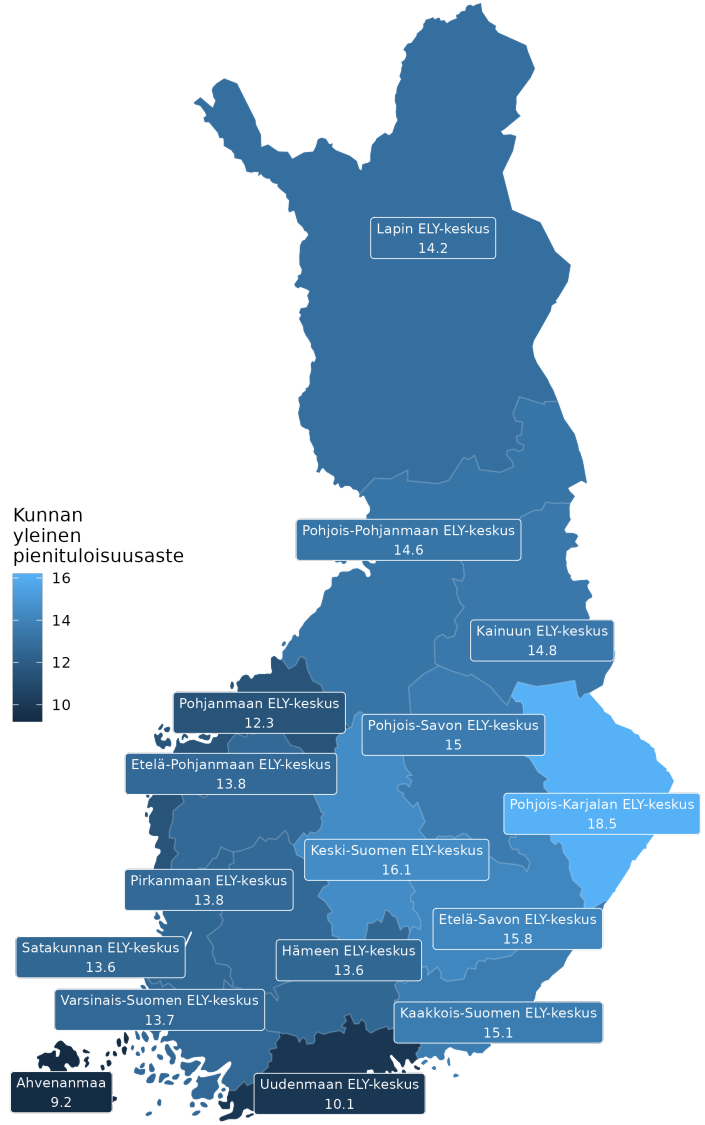

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Final remarks

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rOpenGov packages: Things yet to be done

- ✖ business information
- ✖ registers, patent and trademark information, public tender databases
- ✖ legal information

- Abovementioned things are important, new packages are not everything!

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rOpenGov: upcoming plans

- We are always looking to grow our community of R developers interested in open (government) data
  - Special focus in fostering the use of R and in part building a sense of community between R users in Finland (does not mean excluding international connections)
- We want to encourage researchers and data scientists to open up their R code to public and use permissive software licenses
- We are also open to new joint research projects

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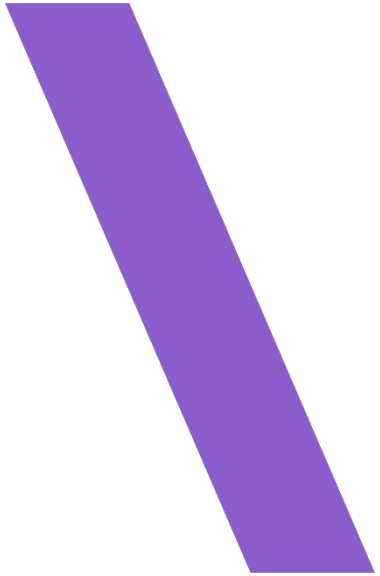
Thank you!



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http://ropengov.org

Get engaged in GitHub:

https://github.com/rOpenGov

https://github.com/pitkant

https://github.com/antagomir

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