

DYNAMIC THEMATIC MAPS FROM PX-WEB APIs

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WHO AM I?

- Senior GIS Expert at National Land Survey of Finland
- Finnish Geospatial Research Institute - SDI Services department
- Product owner for Oskari web mapping platform
- OSGeo Finland board member
- Background
 - Aalto University: geoinformatics & media engineering
 - Used FOSS for some 20 years
 - Programming since 1997



OSKARI IN A NUTSHELL

- Oskari is a tool for easily building multipurpose web mapping applications utilizing distributed Spatial Data Infrastructures
- For creating Embedded map clients onto other websites very efficiently
- For setting up Geoportals or Web GIS systems
- For setting up advanced web-based tools, such as decision making support services and data analysis tools
- Multilingual – English, Finnish and Swedish fully covered, 15 other languages with partial coverage
- Naturally, open source (MIT & EUPL)



Photo credit: [instagram.com/b.i.s.h.e.r/](https://www.instagram.com/b.i.s.h.e.r/)

FREE AND OPEN SOURCE

- Avoiding vendor lock-in situations
- Avoiding data-as-a-hostage situations
- Ensuring the lifecycle of your tools
- Pay for actual development, not for "support"
- Collaborative development - more results with less expenses
- Minimise cost over lifecycle

OSKARI COMMUNITY

infoTripla

Paikkatietokonsultit

SITOWISE

Reaktor

gofore

CGI

Tilastokeskus

TURKU

nitor

SCB

Spatineo

Ympäristöministeriö
Miljöministeriet
Ministry of the Environment



Tampereen
kaupunki

Aluehallintovirasto

KILOSOFT

LUT
Lappeenranta
University of Technology

VÄYLÄ

NLS
NATIONAL
LAND SURVEY
OF FINLAND



Lounaispaikka



Helsingin kaupunki



Unelmakoulu

Väestörekisterikeskus

GTK

MUSEOVIRASTO

Trafi
Liikenteen turvallisuusvirasto

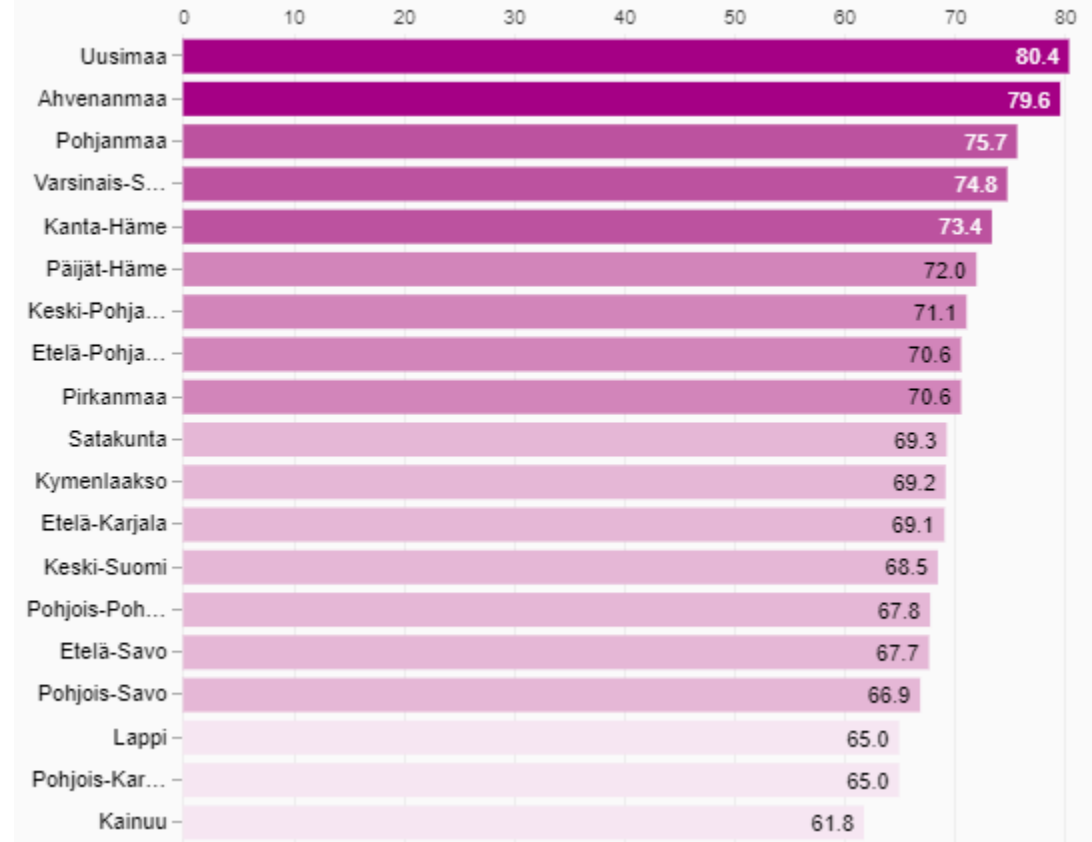
TYÖ- JA ELINKEINOMINISTERIÖ
ARBETS- OCH NÄRINGSMINISTERIET
MINISTRY OF EMPLOYMENT AND THE ECONOMY

WHY BROWSER-BASED?

- Platform independency
- Mobile friendliness
- No installations, no upgrades
 - Always the newest version in use, *anywhere*
- Using APIs
 - Always up-to-date data
 - Supporting APIs: geocoding, routing, code lists, coordinate transformations, etc etc
- Sharing your work via map links
- Embedded maps
 - Service development made easy

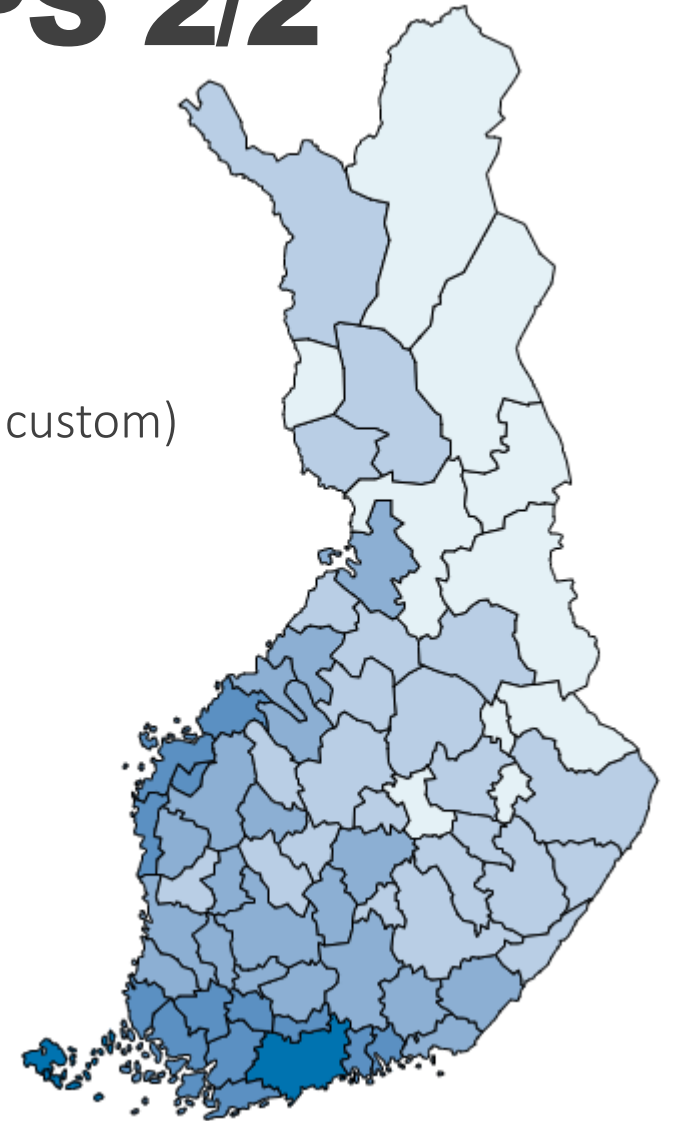
DYNAMIC THEMATIC MAPS 1/2

- Developed together with Statistics Finland
- Connects to PX-Web APIs (among others)
- Statistical data is joined with spatial data on-the-fly
 - Data from several statistical APIs can be used with the same spatial data
- Data can be visualised in many ways
 - Choropleth and Gradual dot symbol maps
 - Bar charts
 - Table
 - Histogram
 - Time-series (animation)



DYNAMIC THEMATIC MAPS 2/2

- More than a map – a tool for explorative analysis
- Classification tools
 - Classification method (quantiles, equal intervals, natural breaks, custom)
 - Number of classes
 - Different color palettes
 - Number of decimals
- Time-series tool
- User's own indicators



DEMO TIME



Employment rate, % 1987 - 2017 (1987)

Map style
Choropleth map

Classification method
Natural intervals

Class division
5

Class breaks
Continuous

Show values

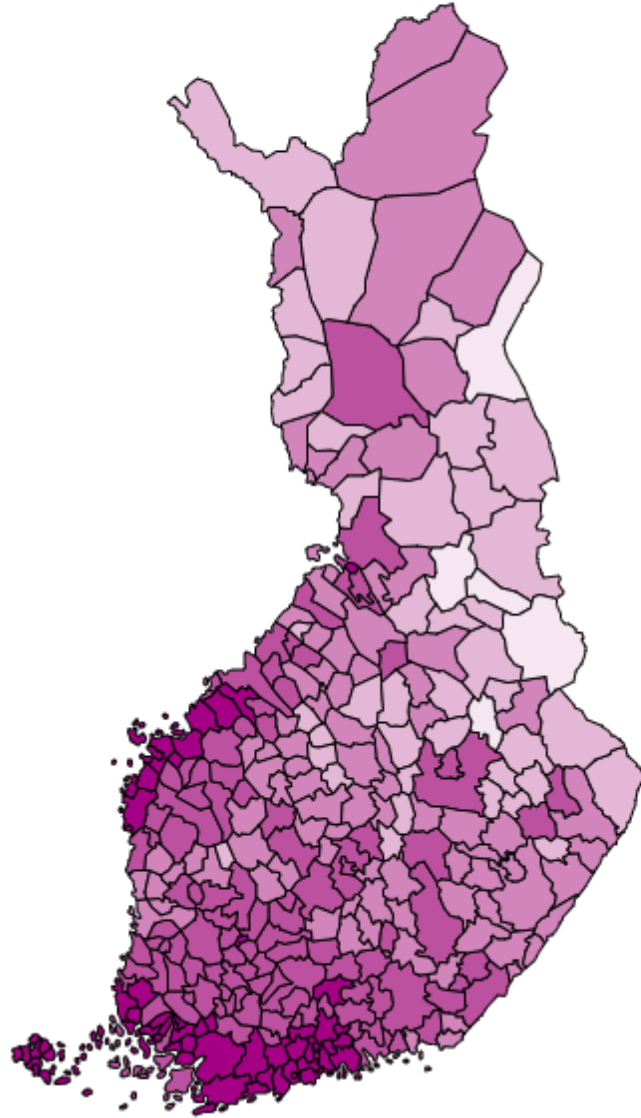
Colors
 Flip colors

Distribution
Quantitative

Number of decimals
1

41.9 - 56.4 (5)
56.5 - 62.7 (40)
62.8 - 68.5 (90)
68.6 - 74.9 (108)
75.0 - 90.5 (68)

The figure is a configuration panel for a map. It includes a title, a close button, and several settings: Map style (Choropleth map), Classification method (Natural intervals), Class division (5), Class breaks (Continuous), Show values (unchecked), Colors (a color swatch and Flip colors checkbox), Distribution (Quantitative), and Number of decimals (1). At the bottom, there is a legend with five color-coded ranges and their corresponding counts in parentheses.



FUTURE VISIONS

- Metadata driven map making
 - Lots of advantages for visualisation and user experience
 - Enabling more advanced analysis e.g. combining statistical units on-the-fly
 - Requires development of richer statistical APIs
- Time-series for user's indicators
- Unclassified dot symbols
- Statistical data on European and global level