

# ConnectGov

## CONNECTGOV: A WAY TO CONNECT MUNICIPALITIES

BIG Hackathon

JULY 5, 2021



# MOTIVATION



**Marek Szeles**

*Concept Designer, author  
Researcher and student at  
the University of  
Cambridge and Czech  
Technical University*

***I did not find a team to work with  
- so I gave my own solution a try,  
based on research I work on***

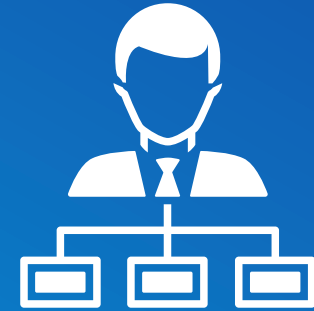
# PROBLEMS



Municipalities are facing many issues in the 21st century...



...they do not have enough experience to solve them...



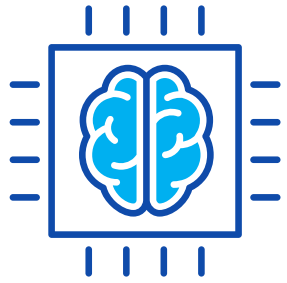
...even though individually, they face similar issues



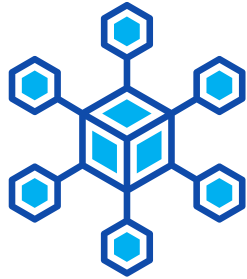
**COOPERATION BETWEEN MUNICIPALITIES IS THE  
BEST WAY TO SOLVE ISSUES.**

Bernadett Köteles-Degrandele, Sharing Cities Project

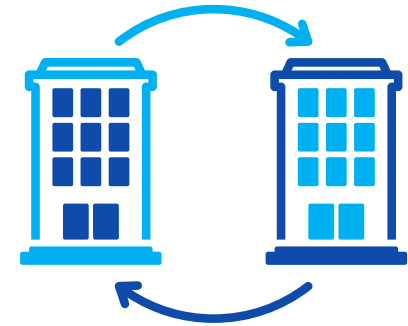
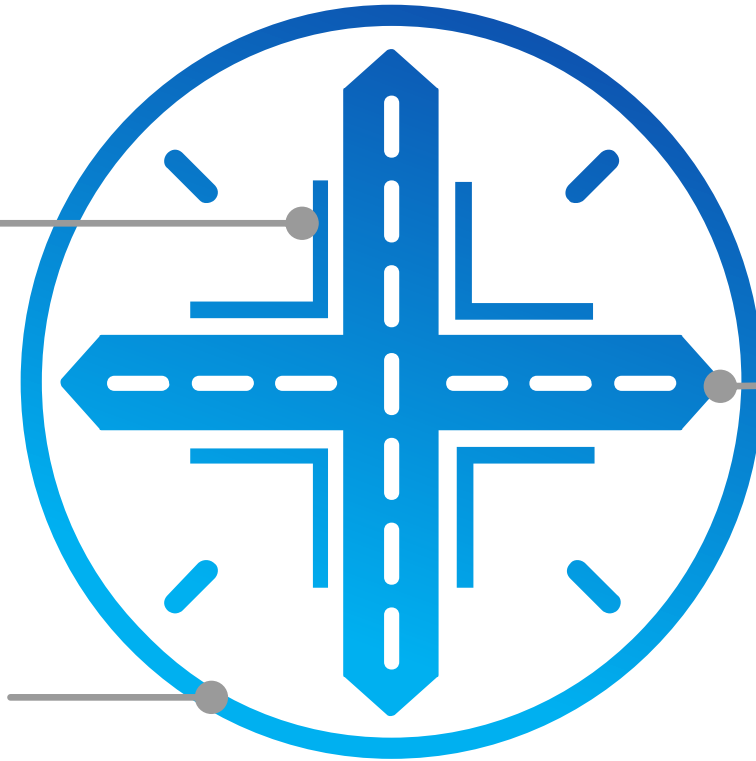
# MY SOLUTION - CONNECTGOV



AI-  
powered



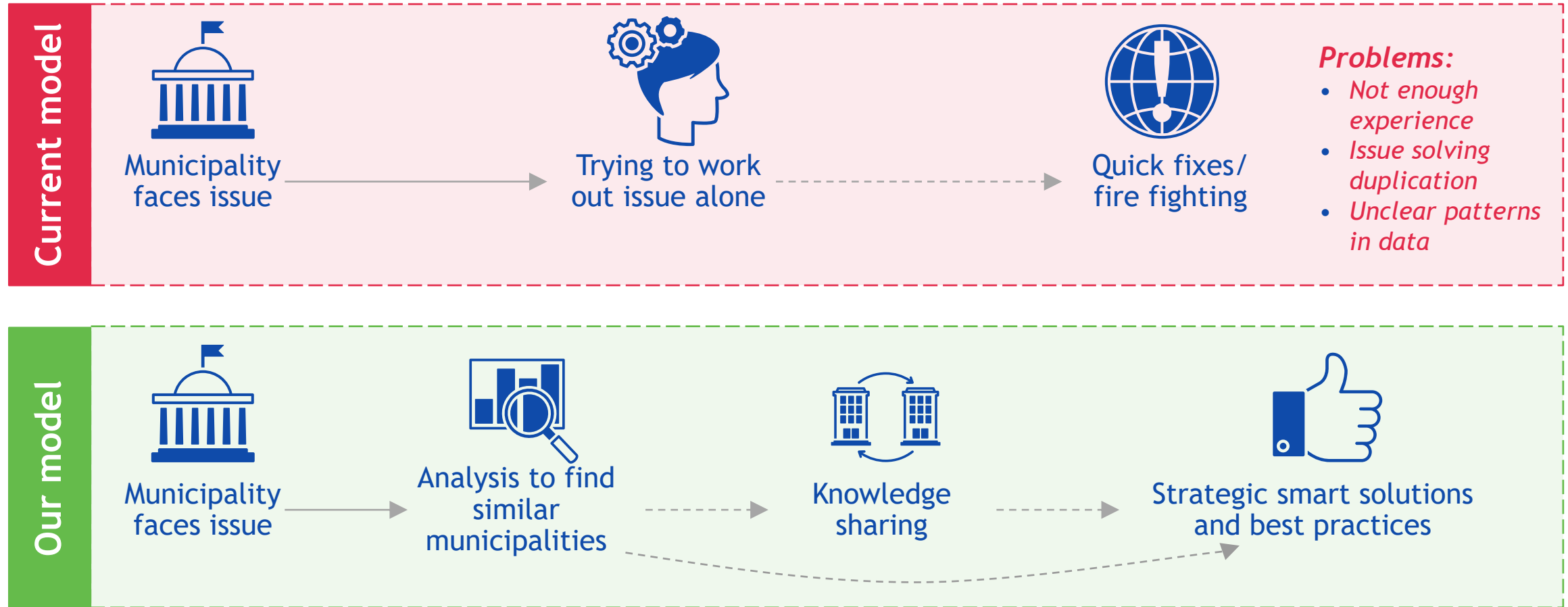
Data  
analytics-

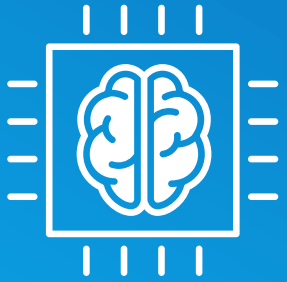


Municipality  
knowledge  
sharing



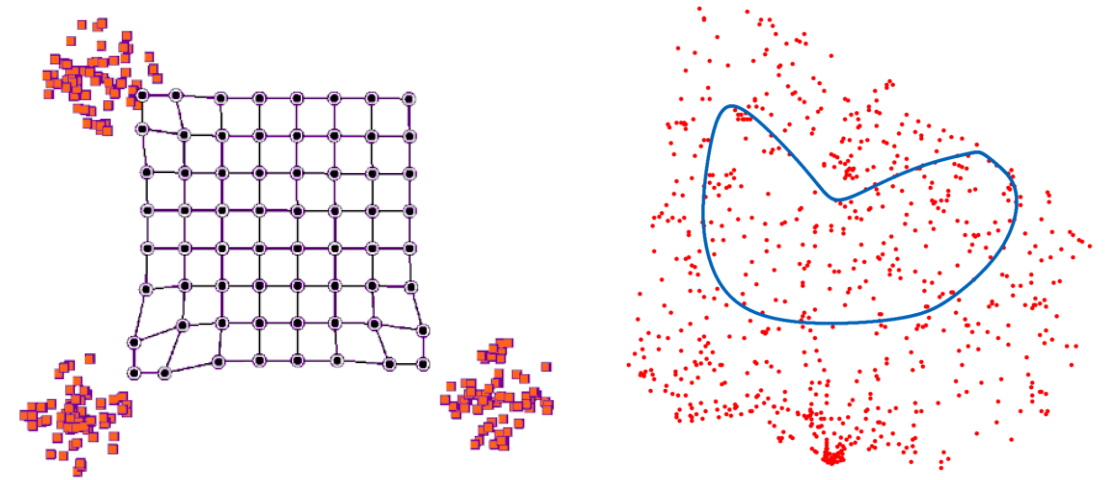
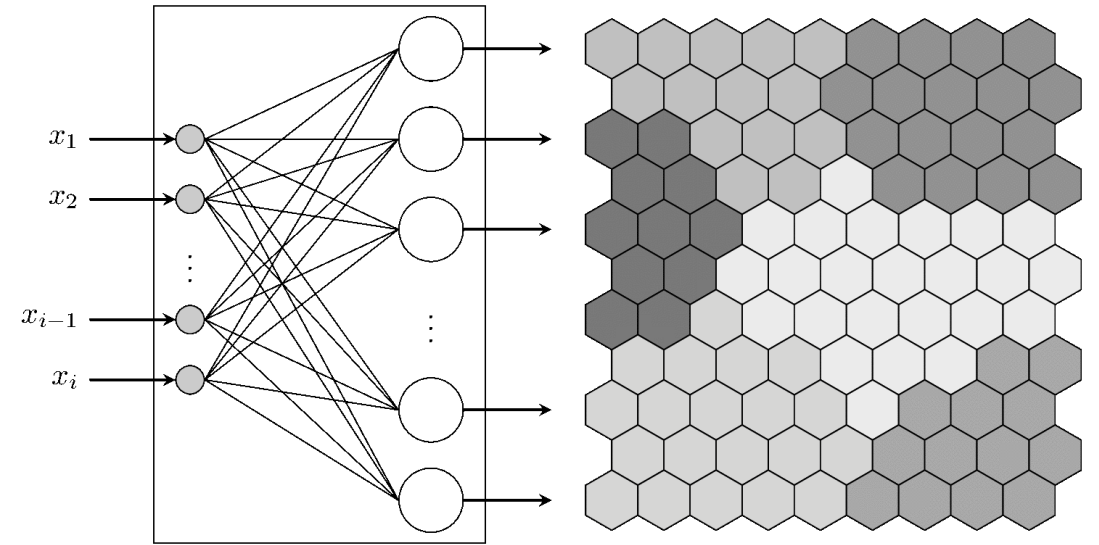
# USE-CASE MODEL





# AI TECHNOLOGY

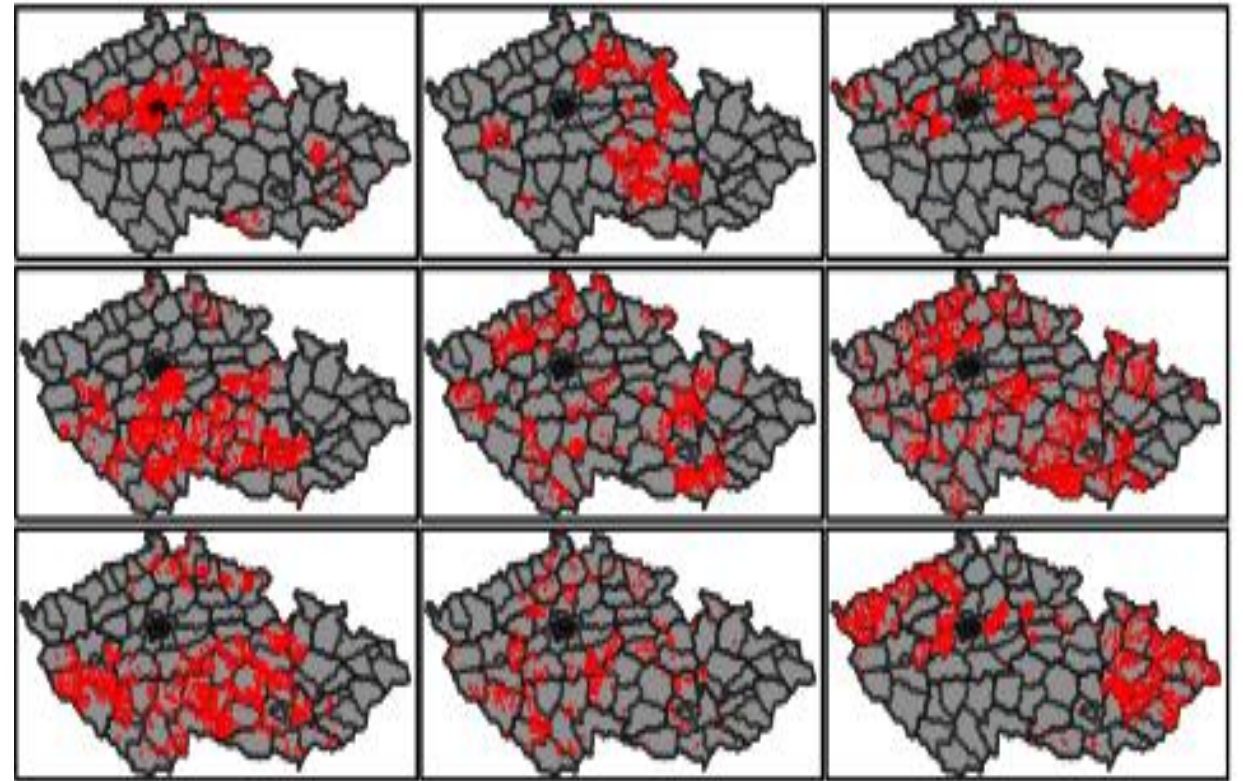
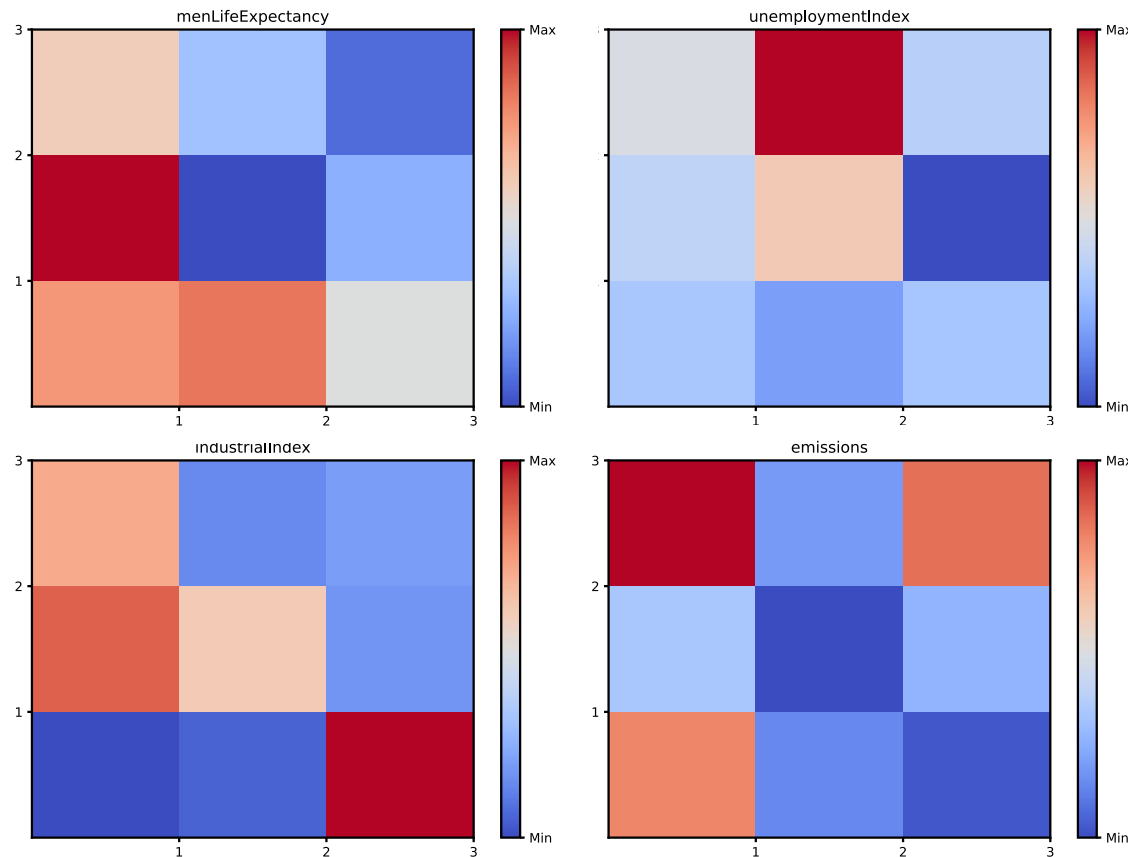
- Self-organizing maps
- Unsupervised clustering method
- Inspired by neural networks
- Useful for exploratory data analysis





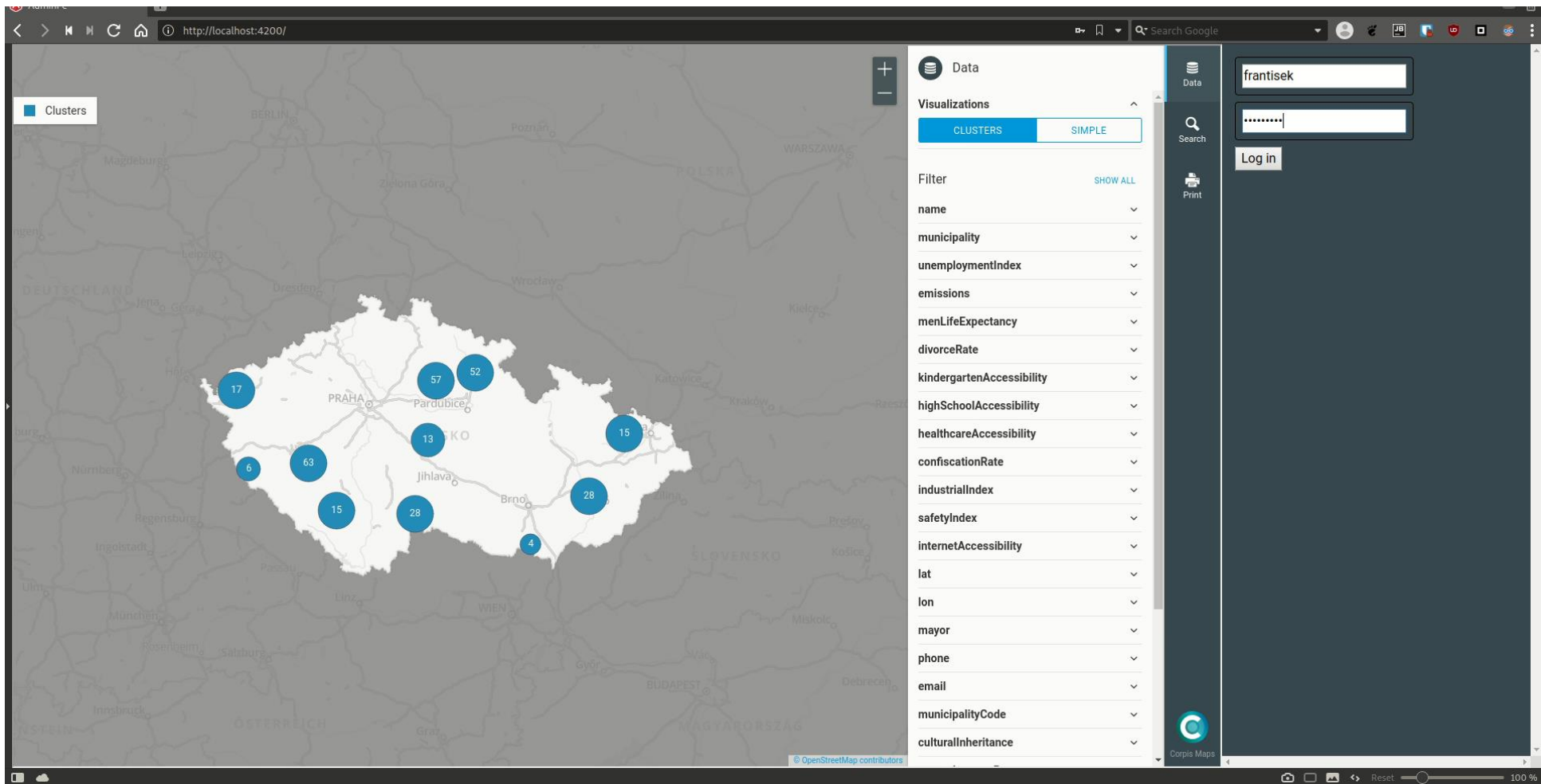
# AI DEMONSTRATION — PRACTICAL USE CASE

- Only Czech municipalities used due to available data
- Grouped into municipalities with similar characteristics and problems to share knowledge

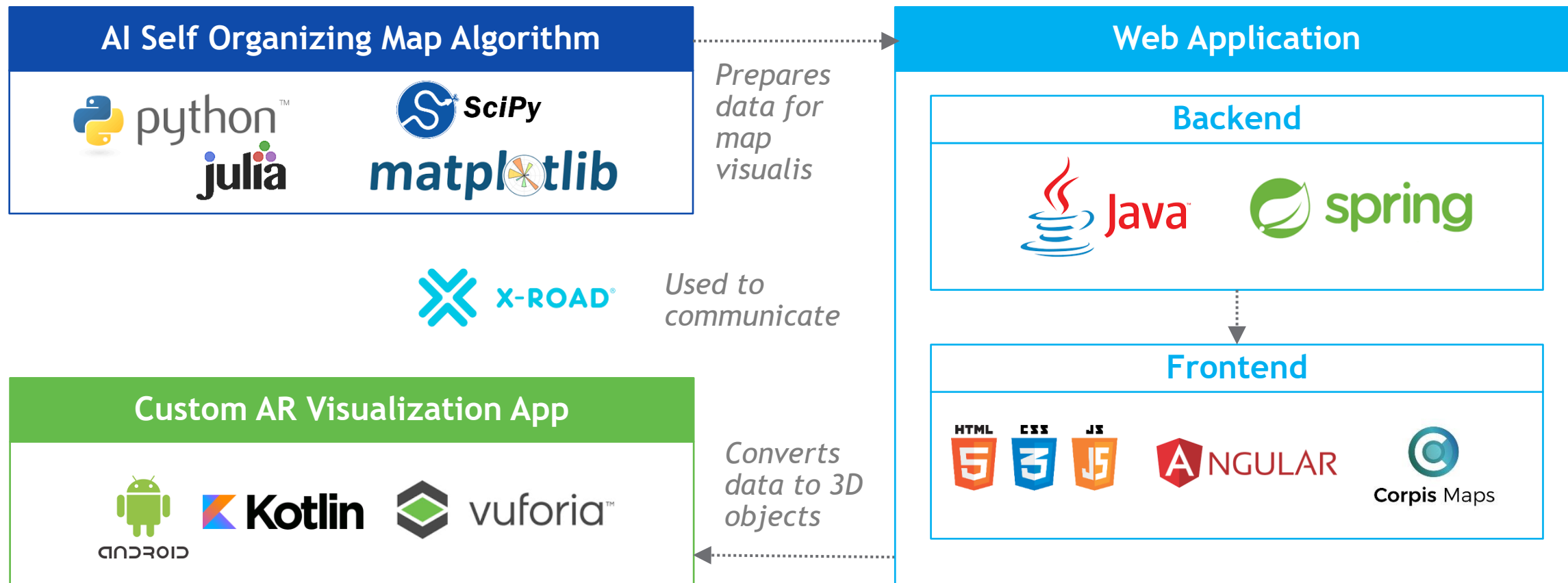




# DEMONSTRATION OF WEB APPLICATION

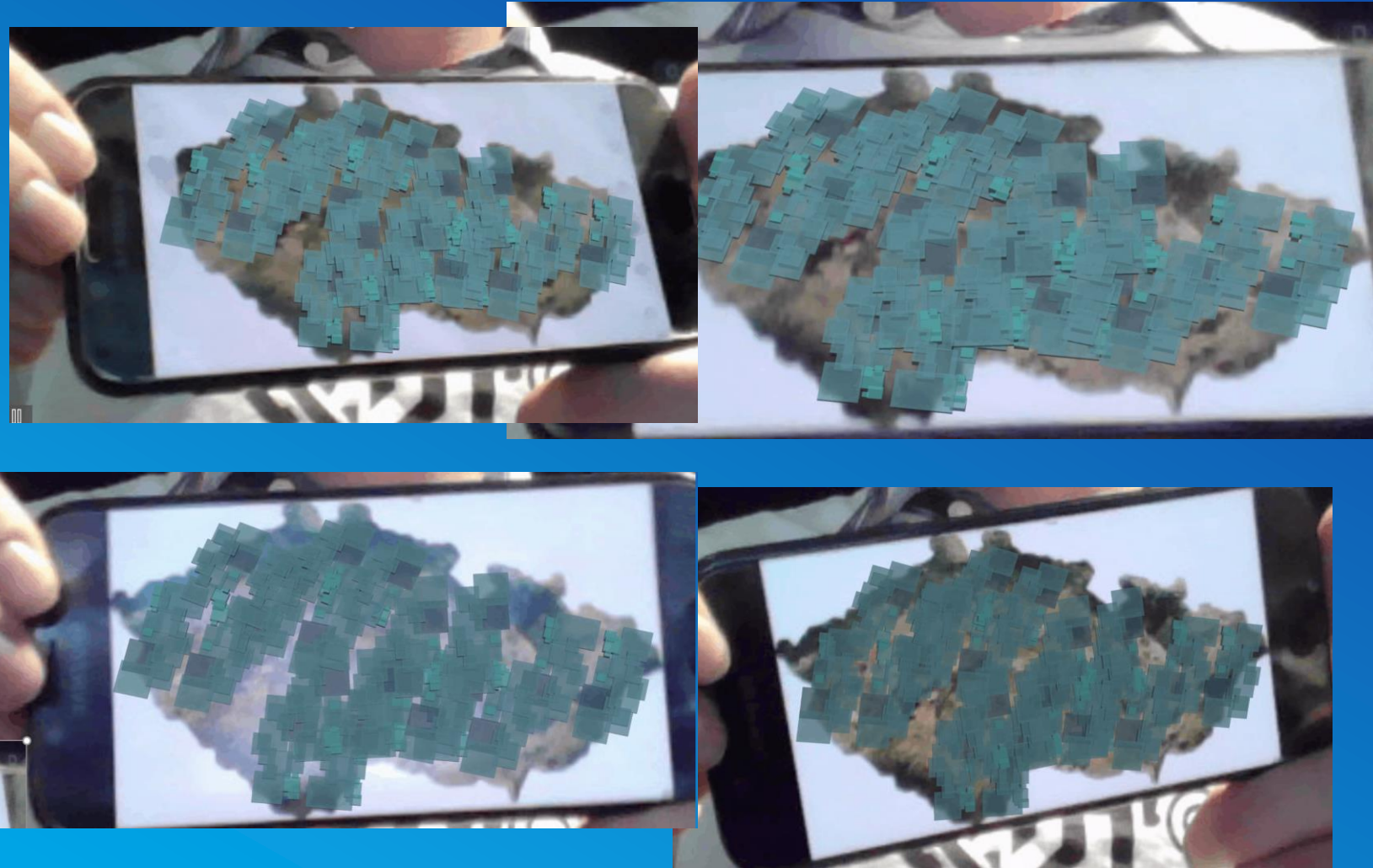


# ARCHITECTURE





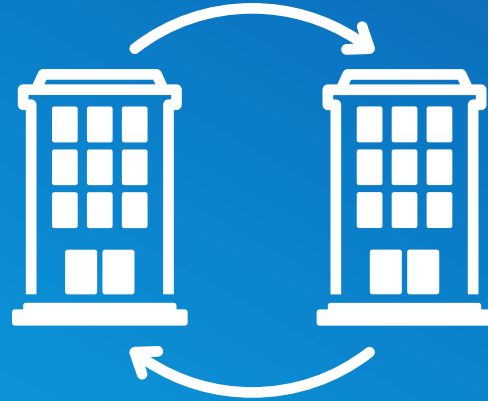
*Augmented  
reality app to  
support  
participation*



# SUMMARY RECAP



We identified  
the issues faced by  
municipalities...



...Enabled them to  
share experience  
based on AI...



...and ConnectGov is  
the implementation





**Thank You  
for Your Attention.**

*Thank You for Your Attention!*



# POSSIBLE USERS



## Municipalities

- Searching for other similar municipalities
- National government and ministries do country-wide analyses



## NGOs

- Analyzing social problems across the country to help those in need



## Consultants

- Need for on-demand prepared datasets
- Benefiting from prepared analytical clusters
- Have the capital to support our concept





# DATASETS ALREADY USED (CZECH SPECS)

Ukazatel	Proměnná
Nezaměstnanost	Míra nezaměstnanosti (2016)
Emise	Procento území nad hranicí znečištění (2016)
Dlouhověkost	Naděje dožití mužů (2012-2016)
Index rozvodovosti	Počet rozvodů / manželství (2017)
Nedostupnost mateřských škol	Indikátor, že v obci není MŠ nebo je počet dětí na MŠ v ORP vyšší než medián (2016)
Nedostupnost středních škol	Počet dětí na SŠ (2016)
Nedostupnost zdravotních zařízení	Počet obyvatel na zdravotnické zařízení (2016)
Exekuce	Počet exekucí na obyvatele (2017)
Závislost na průmyslu	Pracující v průmyslu / zaměstnaní (2011)
Bezpečnost	Počet obyvatel na kriminální čin (2016)
Přírůstek obyvatel	Procento přírůstku (2012-2017)
Nedostupnost rychlého internetu	Kategorie 1-3 podle počtu poskytovatelů rychlého internetu (2016)
Vzdálenost k okresnímu městu	Vzdušná k hlavnímu městu okresu
Vybydlenost	Počet prázdných domů v obci
Volební účast	Volební účast v komunálních volbách (2018)
Nedostatečná	Počet chátrajících paláců, vil, kin, a jiných kulturních zařízení



# POTENTIAL DATASETS TO BE ADDED

- Drought data
- Financial data
- Trash collection data
- Infrastructure data
- Weather data
- etc.

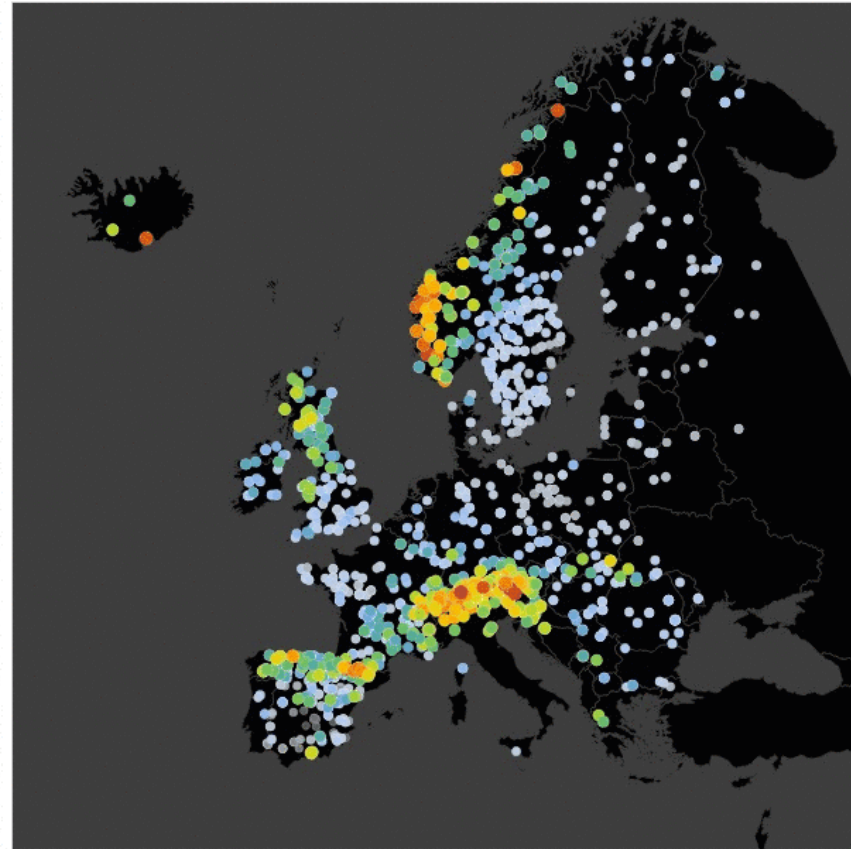
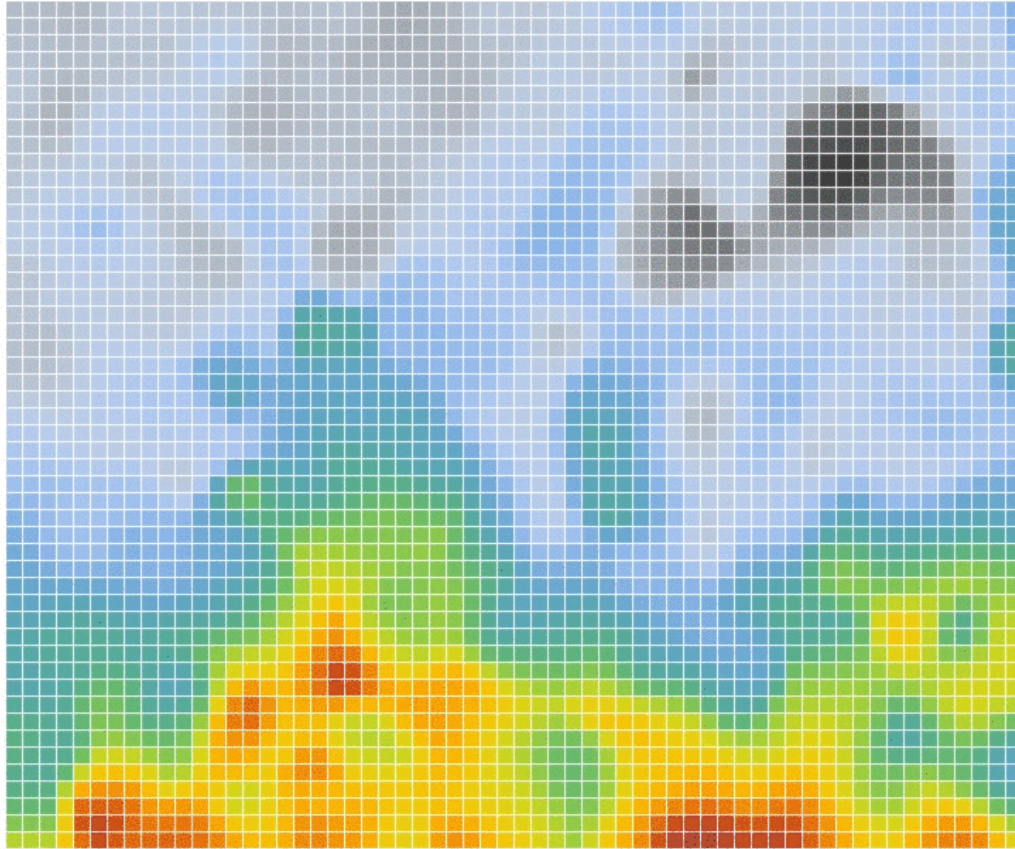


# POSSIBLE FUTURE: EXPAND DATA TO EU LEVEL

Annual mean of daily precipitation



A self-organizing map of European rivers using variables representing the geographical characteristics of their catchments



matrix element: create box to filter locations (use scroll to change box-size)

variable    
 filter\_u\_matrix





# ConnectGov:

*For better knowledge  
sharing for municipalities*

*Thank You for Your Attention!*

