

# **Covid-19 sledilnik in podatkovna odličnost**

**Dr. Aleks Jakulin**

**Madrid, 8. marec 2020**



# New York, 9. april 2020



**Andrew Cuomo**  @NYGovCuomo · Mar 5

We are taking every action to make sure NYers are safe.

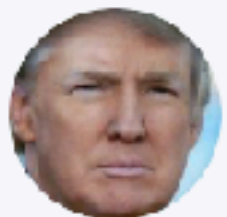
But undue anxiety and fear is a threat in itself. Let's fight fear with facts:

- 80% of the people who get the [#coronavirus](#) will self-resolve
- Some context: There are thousands of people in the hospital today with the flu

 105

 108

 334



**Donald J. Trump**  @realDonaldTrump · Mar 9

So last year 37,000 Americans died from the common Flu. It averages between 27,000 and 70,000 per year. Nothing is shut down, life & the economy go on. At this moment there are 546 confirmed cases of CoronaVirus, with 22 deaths. Think about that!

 83.3K

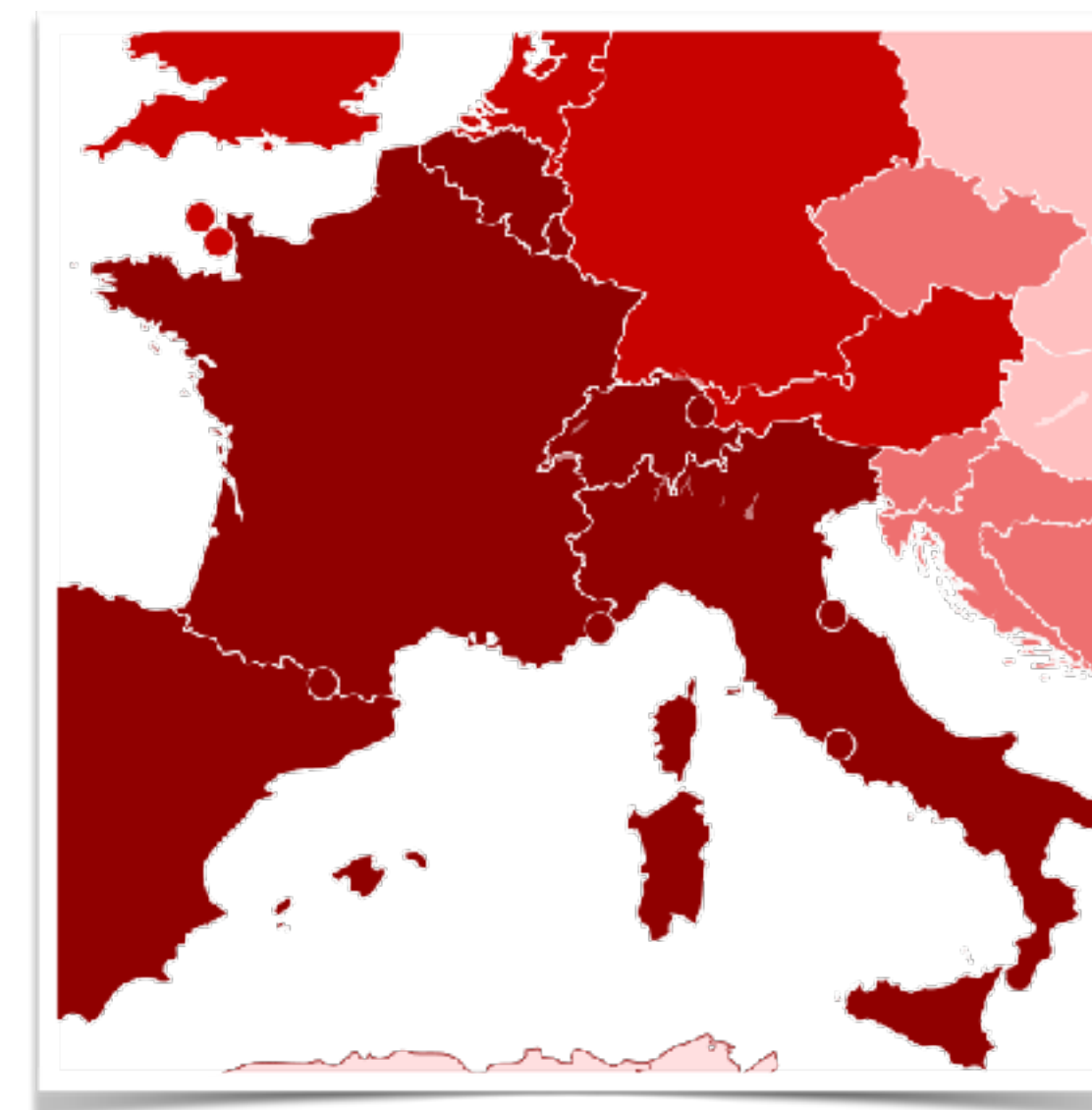
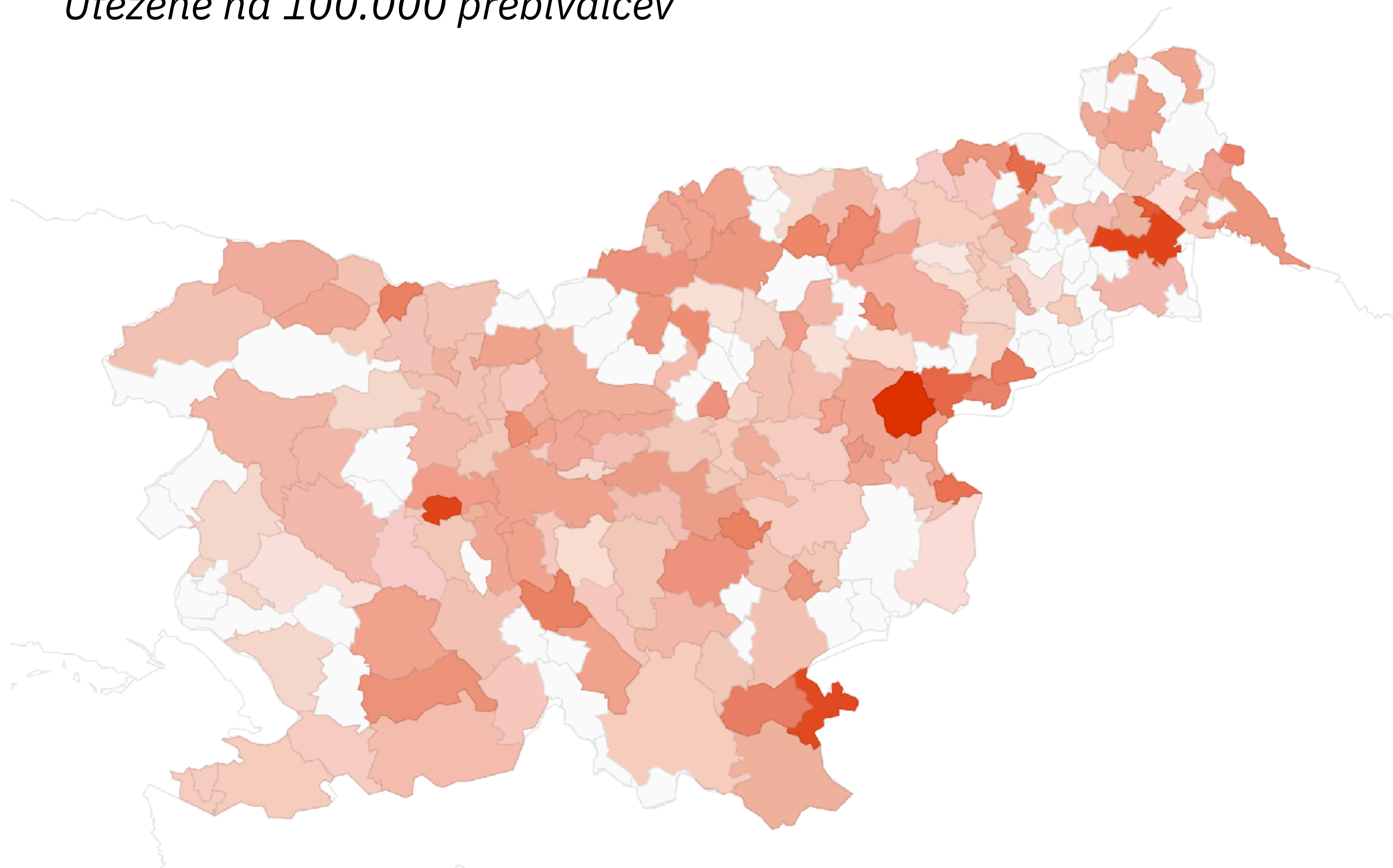
 89.3K

 294.7K



# Zemljevid potrjeno okuženih po občinah

*Utežene na 100.000 prebivalcev*



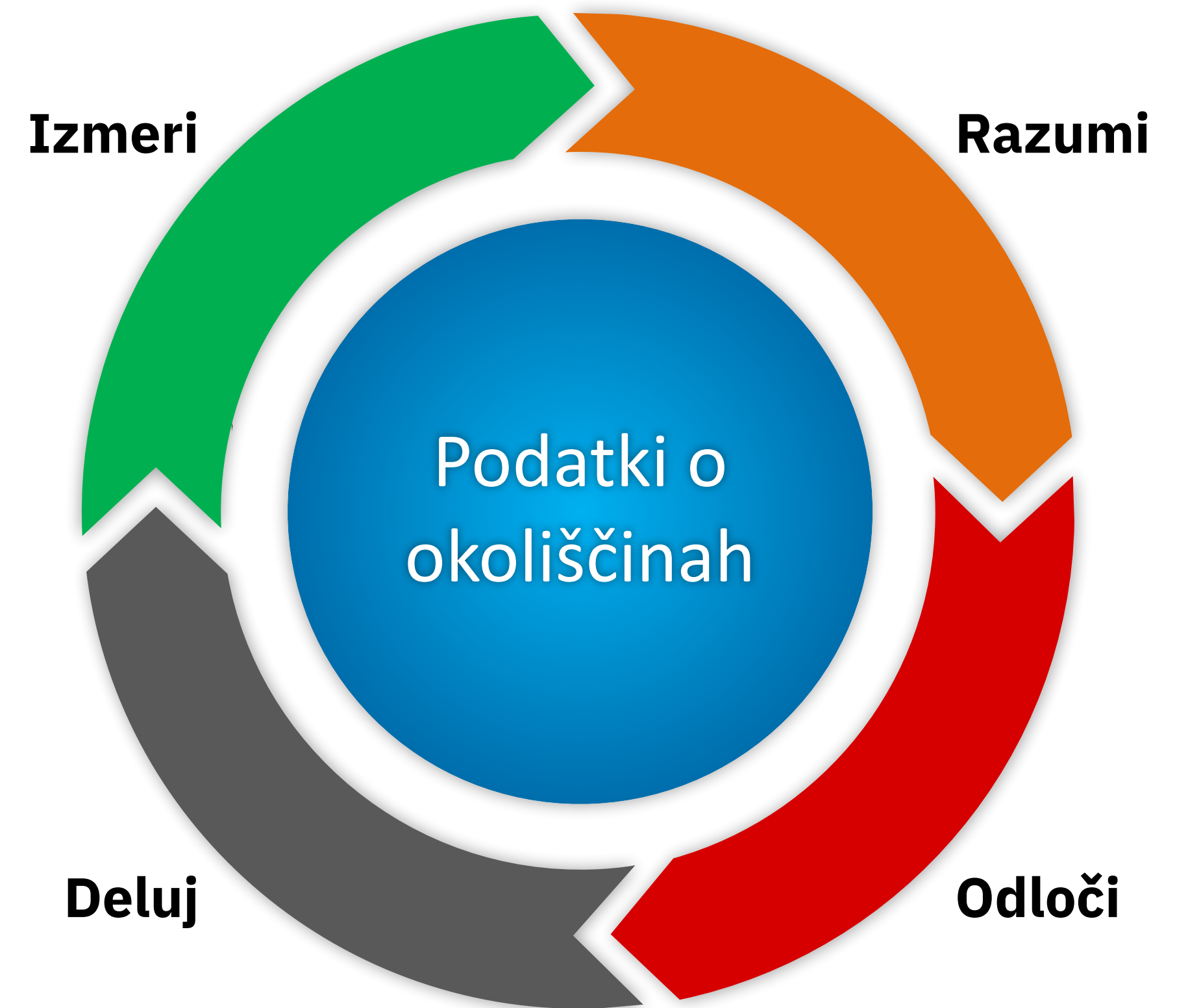
# Podatkovna odličnost z zanko IROD

*Utežene na 100.000 prebivalcev*

- **HITROST:** Kako hitro se vrtimo?
- **ŠIRINA:** Katera znanja imamo?
- **GLOBINA:** Koliko podatkov imamo?



Col. John Boyd , OODA Loop



# Papirnata znanost

1600



Cikel 1 leto

# Digitalna znanost

2000

Objave



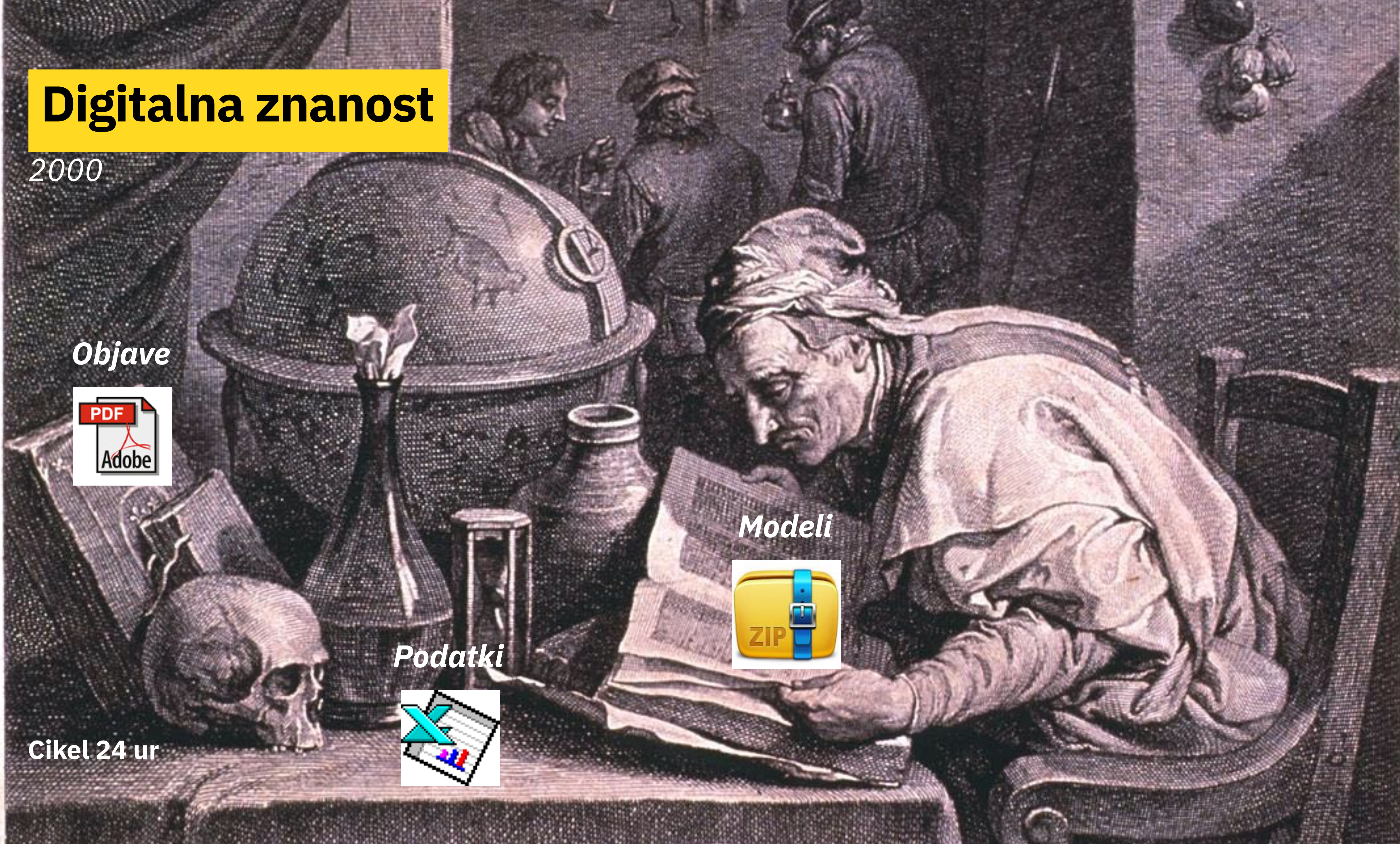
Modeli



Podatki



Cikel 24 ur



# 2020: Hitra interaktivna znanost

COVID-19 Slovenia Tracking ☆ +

**Podatki**

Format Data Tools Add-ons Help Last...

€ % .0 .00 123 ▾ | Default (Ari...)

LAB testi in NIJZ EP			
LAB testov	LAB t.dan	LAB pozitivni	te po
tests.perfc	tests.performed		
38			
59			
100			
143			
178			
194	16		
211	17		
265	54		
313	48		

Luka Renko  
9:27 PM Apr 1

podatki pred tem dnevi  
tedenski osnovi, zato ji

- Anonymous A
- Anonymous A
- Anonymous A
- Anonymous B
- Anonymous B
- Anonymous C
- Anonymous C

COVID-19 SLEDENIŠTVO Domov Tabela Modeli FAQ Če projekt Ekipa Viri Povezava

**Objave**

<b>Hospitalizirani</b>	<b>V intenzivni enoti</b>	<b>Umrli</b>	<b>Ozdraveli</b>
<b>1344</b> +9 (+0.7%) 20. april	<b>86</b> -1 (-1.2%) 21. april	<b>77</b> +3 (+4.1%) 20. april	<b>38</b> +12 (+46.2%) 16. april

Širjenje COVID-19 v Sloveniji

Skala na Y osi: **Linearna** Logaritemska

ommits on Apr 19, 2020

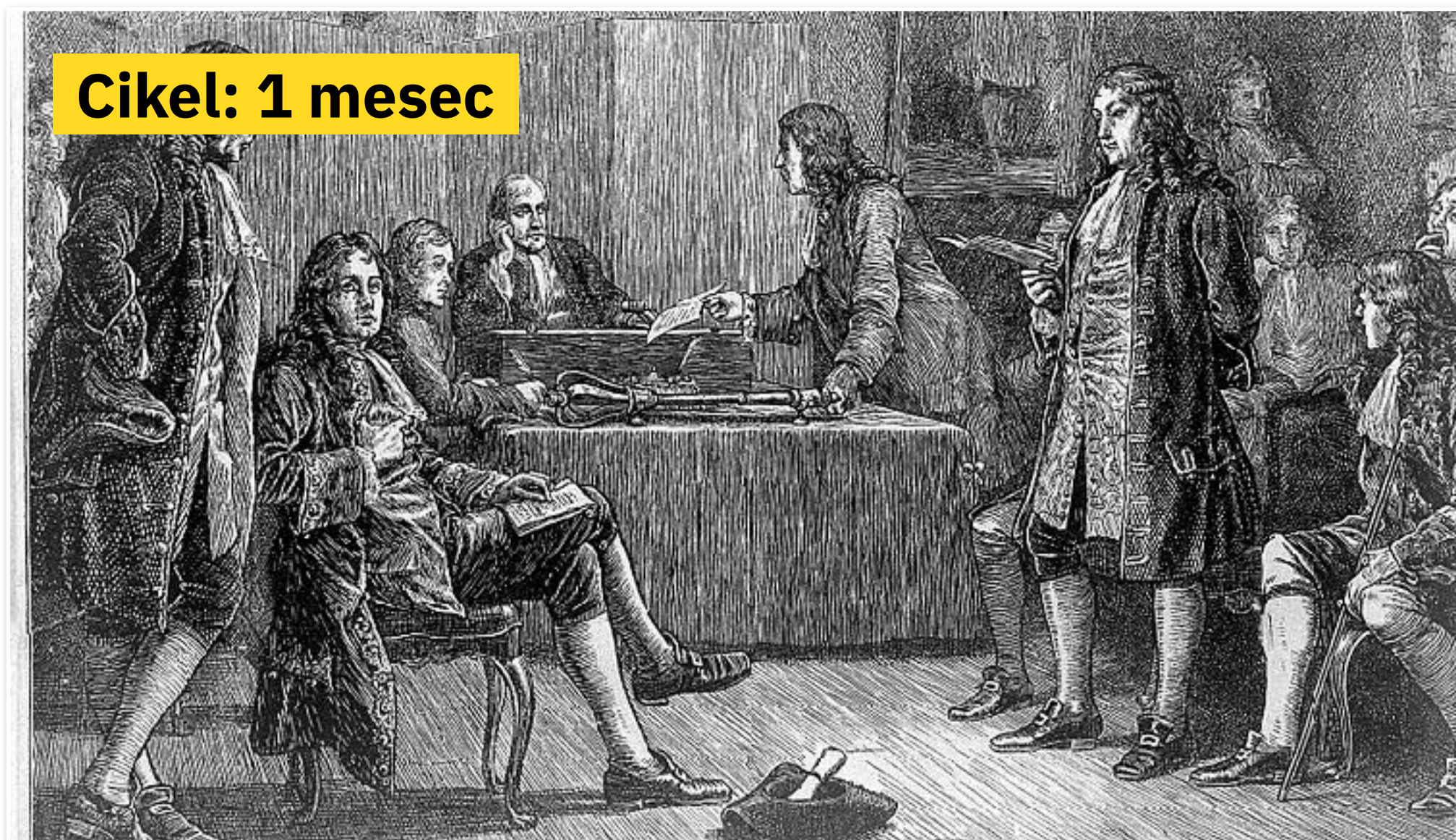
**Modeli**

- 40f593e
- Travis CI committed 2 days ago ✓
- f8a8bf3
- typo
- lukarenko committed 2 days ago ✓
- f33106e
- added icu.csv
- lukarenko committed 2 days ago ✗
- 7063312
- Verified
- Merge pull request #8 from jurijbajzelj/gitignore\_remove\_output\_csv.e...
- jurijbajzelj committed 2 days ago ✓
- ea4ed51
- updated gitignore
- jurijbajzelj committed 2 days ago
- 9bee839
- Verified
- Merge pull request #7 from jurijbajzelj/fetching\_ondemand
- jurijbajzelj committed 2 days ago ✓



# Široka interaktivna skupnost

- 20 aktivnih sodelavcev
- 50 opazovalcev
- vsi prostovoljci
- vse vrste poklicev
- nismo se še srečali v živo



Yesterday

**Cikel: 1 minuta** moškimi v vseh starostnih skupinah (slika 2).

[https://www.epicentro.iss.it/coronavirus/bollettino/Report\\_COVID-2019\\_30\\_marzo\\_eng.pdf](https://www.epicentro.iss.it/coronavirus/bollettino/Report_COVID-2019_30_marzo_eng.pdf)

Je vzrok genetske narave, socialnih dejavnikov ali obojega?

Glede na to, da koronavirus povzroča respiratorno bolezen, morda kajenje le ni nepomembno.

<https://www.statista.com/statistics/501615/italy-smokers-by-age-and-gender/>

**Statista**  
Number of smokers by age and gender in Italy 2018 | Statista  
In 2018, 1.23 million Italian men and 942 thousand women aged 45 to 54 years were smokers. (270 kB) ▾

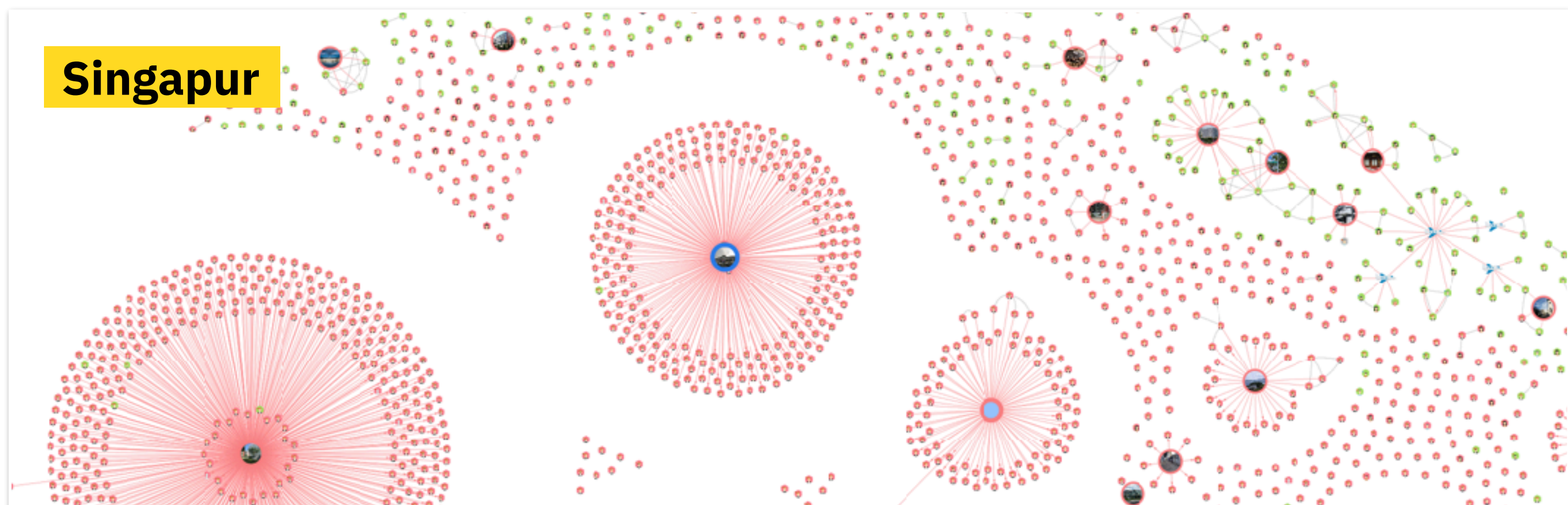
Age Group	Men (1,000s)	Women (1,000s)
15-24	~100	~100
25-34	~200	~200
35-44	~400	~400
45-54	~1,200	~900
55-64	~800	~700
65-74	~400	~400
75+	~200	~200

**Miha Kadunc** Yesterday at 2:24 AM  
Zanimiva razlaga 'overshoot' efekta pri herd immunity pristopu - če prekuženost dosežeš sredi epidemije z  $R > 1$ , je lahko število okuženih bistveno večje od teoretičnega praga  
[https://twitter.com/ct\\_bergstrom/status/1252009362849009664](https://twitter.com/ct_bergstrom/status/1252009362849009664)

**Carl T. Bergstrom**  
@CT\_Bergstrom  
17. In fact, for an SIR or SEIR model, you reach herd immunity not when the epidemic is nearly over, but rather **precisely** at the epidemic peak. This makes sense. Before the herd immunity threshold, each case creates  $>1$  new cases, and the epidemic curve keeps increasing.  
<https://pbs.twimg.com/media/EWAH3X9UCMEzNH.jpg>  
Twitter | Yesterday at 1:01 AM (52 kB) ▾

# Globina podatkov bi pomagala

CASE #	PATIENT	AGE	GENDER	NATIONALITY	STATUS	INFECTION SOURCE	COUNTRY OF ORIGIN	SYMPTOMATIC TO CONFIRMATION	DAYS TO RECOVER	SYMPTOMATIC
	<b>Taiwan</b>									
398	女性	20	Male	Taiwanese	In hospital	Imported case	Palau	5	-	13th, Apr 20
397	男性	20	Male	Taiwanese	In hospital	Imported case	Palau	-	-	-
396	男性	20	Male	Taiwanese	In hospital	Imported case	Palau	6	-	12th, Apr 20
395	女性	20	Female	Taiwanese	In hospital	Imported case	United states	11	-	4th, Apr 20
394	女性	60	Female	Taiwanese	In hospital	Imported case	United states	9	-	6th, Apr 20
393	女性	60	Female	Taiwanese	In hospital	Imported case	United states	15	-	29th, Mar 20
392	男性	60	Male	Taiwanese	In hospital	Imported case	Unclear origin	13	-	31st, Mar 20
391	女性	60	Female	Taiwanese	In hospital	Imported case	Unclear origin	13	-	31st, Mar 20
390	男性	50	Male	Taiwanese	In hospital	Imported case	Unclear origin	9	-	4th, Apr 20
389	女性	50	Female	Taiwanese	In hospital	Imported case	Unclear origin	13	-	30th, Mar 20



**For Your Information**  
Types of personal information governments have released about coronavirus patients.

INFORMATION DISCLOSED	HONG KONG	SOUTH KOREA	U.K.
Age and gender	✓	✓	✗
Travel history	✓	✓	✓
Work address	✓	✗	✗
Home address	✓	✓	✗
Links to previous cases	✓	✓	✗
Nationality if case is imported	✓	✗	✗
Treatment location	✓	✓	✓
Places visited prior	✓	✗	✗
Identified contact persons	✗	✓	✗
How case was confirmed	✗	✗	✗
Geographical breakdown of patients	✗	✓	✗

Note: New York identified the first patient in detail, but subsequent announcements just included geographic breakdown of patients.  
Source: the governments

# Naslednji koraki

*...za večjo podatkovno odličnost z IROD*

- **Integracija 1) protokolov testiranja 2) protokolov sproščanja ukrepov v Sledilnik**
- Povečajmo **hitrost** tehnologije, **globino** podatkov in **širino** skupnosti Sledilnika.
- Boljše povežimo **merjenje** in zajem podatkov, da bo globlje in karseda avtomatsko.
- Naprej razvijamo vizualizacijske in interakcijske tehnike, ki olajšajo **razumevanje** podatkov.
- Integrirajmo statistične postopke in napovedne modele, ki nam olajšajo **odločanje**, tudi z večjim upoštevanjem ekonomskih faktorjev.
- Povežimo Sledilnik z odločevalci, državljani, mediji in institucijami, da bodo podatki v pomoč pri **delovanju**.
- Uporabimo Sledilnik tudi za kaj drugega kot Covid-19.



# Kako naprej?

*Gradnja skupnosti za podatkovno odličnost*

- Zavzemamo se za podatkovno odličnost
- Zavzemamo se za pomembnost podatkovnega razmišljanja
- Povezujemo institucije, ki uporabljajo podatke
- Nudimo lahko infrastrukturo in orodja za podatke
- **Slovenija je lahko v tem vodilna na svetu**