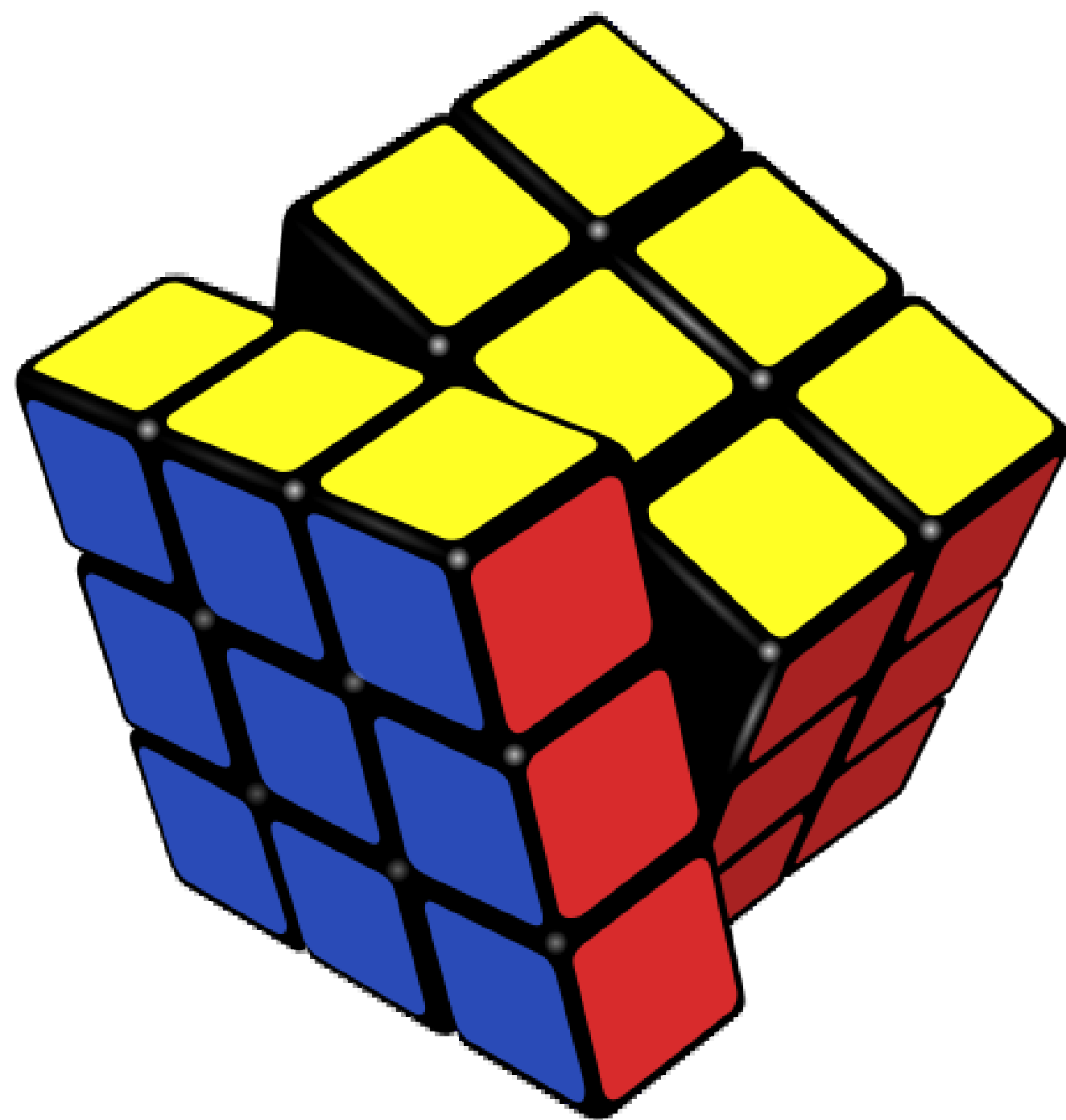


Kako podatkovna analitika spreminja distribucijski sistem prihodnosti

Blaž Dobravec

BLED 08/09/2022





DISTRIBUCIJSKI SISTEM DANES

/ Podatkovna analitika DANES

“

Velika podjetja in raziskovalci se zanašajo na **avtomatizirano računalniško analizo strukturiranih in nestrukturiranih podatkov v digitalni obliki** in njihovo obdelavo na način, da iz njih pridobivajo **informacije**, ki jih uporabijo pri izboljšanju obstoječih procesov in poslovanja.

”

Speed cube algorithms are represented by capital letters, numbers and []. Each symbol represents rotation. Rules are as follows:

Right, Left, Up, Down, Front, Back.

Capital: Turn 90° clockwise

Capital+: Turn 90° counter-clockwise

Capital+2: Turn 180°. e.g. R2=R+R.

1 Build a white cross

The side colors of the cross should match the color of the center pieces.

STEP 1 Find these edge pieces with the following colors: white red, white blue, white orange, white green, and ignore those without white. The diagram below indicates different situations, find the matched case and execute the movement according to it, in order to put the white side next to the yellow center.

Case 1

Case 2

Case 3

Tips

- The gray represents the unnecessary part in this step.
- The translucent area represents the final position after executing the movement.
- If there's already white edge on the top layer, hide it first and then keep solving for the Cross.

STEP 2 Turn the top layer to match every cross piece one by one, turn 180° to matched down white center pieces. Repeat this step until all the cross pieces are in the right place.

Cross is actually pretty easy, if you can solve one side, you can solve cross too. Do brainstorming :)

2 Solve the four corners

The whole white side will solve, and the sides will be T-shaped upside down.

STEP 1 Find white corner pieces at the top layer, and put that corner on top of the matched position. In this example, the white red blue corner is matching with the red and blue centers.

STEP 2 Execute the right algorithm according to the situations shown in the diagram below.

STEP 3 Repeat this step until all four corners are solved.

U or U' or U2

Algorithm 1: R U R'

Algorithm 2: U R U' R'

Algorithm 3: R' U' R' U2 R U R'

Tips

- If there are no white corner pieces in the top layer, then execute R U R' or R U R'. Like this case, the green orange white corner piece will place on the top side. After executing the algorithm, it could be solved by following the instruction.

3 Solve the four middle edge pieces

The first two layers will be solved.

STEP 1 Find the edge which is not with yellow, and match its side color.

STEP 2 Execute the right algorithm according to the situations shown in the diagram below.

STEP 3 Repeat this step until two layers will be solved.

U or U' or U2

Algorithm 4: (U R U' R' U') (F' U F)

Algorithm 5: (R' F' R U) (R U' R' F)

Tips

- If there are no right pieces in the top layer, execute the above algorithms in this step, like (R' F' R U) (R U' R' F). Like this case, the green orange edge will replace by the top layer, and then follow the instruction to solve.
- The () in the algorithm only contributes with better fingertricks, and helps with the memorization, which will not affect the turning of the algorithm.

4 Adjust the four top edges' side

It will build up a yellow cross on the top layer, the other sides could be ignored.

There are only four cases in this step, which execute the Algorithm 6 once will transform to the next case, until the yellow cross is done.

F (R U R' U') F' Algorithm 6

Algorithm 7: (R U2) (R' U' R U' R')

Algorithm 8: (R U R' U) (R U2 R')

Algorithm 7 + U' + Algorithm 7

Algorithm 7 + U' + Algorithm 8

Algorithm 7 + U2 + Algorithm 8

The top side will be solved.

5 Adjust the four top corners' side

The whole yellow side will be solved.

The diagram is vertical view, and the yellow bars represent the yellow pieces on the sides.

Focus on top side, and there are 7 cases for total. The cases which only have one yellow corner on the top side just need to execute the algorithm once.

Algorithm 9: (R' U) (L' U2) (R U') (R' U2) (L R)

Algorithm 10: M'2 U M U2 M' U M'2

Algorithm 10 + U + Algorithm 10

Algorithm 10 + U' + Algorithm 10

Algorithm 10 + U + Algorithm 10

Tips

- M is the movement of middle layer. It could be done by either index finger or ring finger pushing. M' could be done by ring finger move.

6 Permute the four corners

All the corners will be solved.

STEP 1 Find the corners with the same color on the sides, and then execute Algorithm 9. If all the corners are placed correctly, then skip to Step 3.

STEP 2 If none of the corners are placed correctly, execute Algorithm 9 once, and look for a pair of the corner, then execute Algorithm 9 once again.

STEP 3 Match the corners with the color of the first 2 layers by doing U layer move.

7 Permute the four edges

You will conquer your Rubik's Cube all six sides!

The diagram is vertical view. The arrows represent the moving direction of the edge pieces, and the black bars represent the same-colored pieces.

Algorithm 10 + U + Algorithm 10

Algorithm 10 + U' + Algorithm 10

Algorithm 10 + U + Algorithm 10

Algorithm 10 + U' + Algorithm 10

Tips

- Make sure to adjust to the right position before executing the algorithm.
- In Step 4/5/7, if the first two layers was solved, the case is not included in the instruction, such as eight yellow pieces on the top side, or only two edges need to switch.
- These situations indicate that the cube is assembled incorrectly, which have to reassemble to the solved state.

CFOP vs. Beginner method

- CFOP's algorithms are way more than the beginner method, except for the Cross. Cross does not really need algorithms, as it can be solved by experience within 5 steps.
- In CFOP, the F2L (First Two Layers) combines Step 2 and 3, which a pair of corner and edge can be done by only one algorithm, with twice efficiency.
- CFOP can directly solve the cases in Step 4 by only one algorithm OLL combines Step 4 and 5, and PLL combines Step 6 and 7, efficient by 200%.

Scan the QR code to learn more about GAN CUBE, and have fun speedcubing with us!

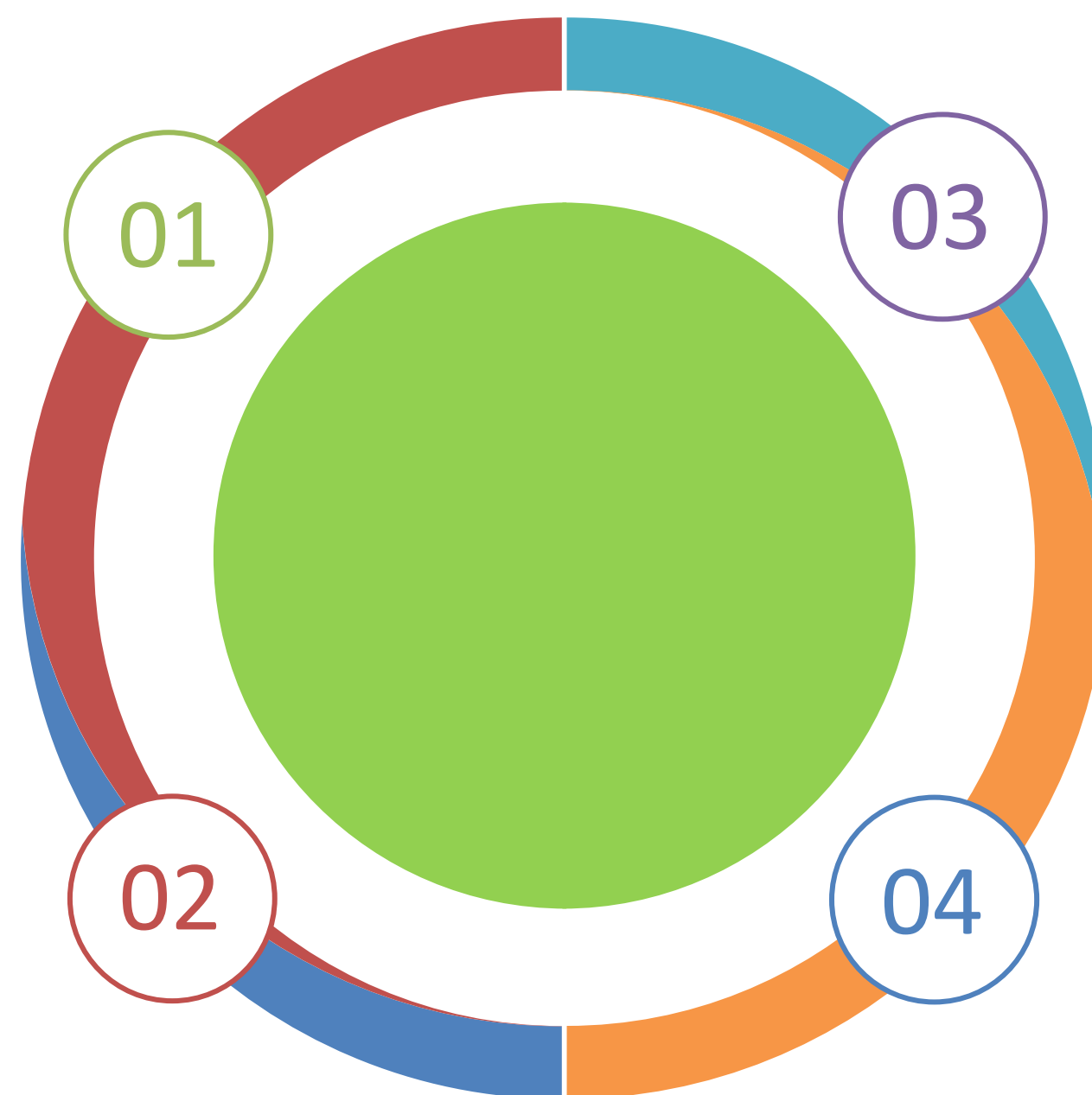
KJE?

INVESTICIJE

Optimizacija investicij v omrežje na podlagi podatkovnih analiz.

RAZVOJ OMREŽJA

Razvoj omrežja z upoštevanjem različnih možnih scenarijev razvoja.



VZDRŽEVANJE

Prediktivno vzdrževanje sredstev in “online” spremljanje stanja sredstev.

OBRATOVANJE

Načrtovanje obratovalnih stanj in povečanje avtonomnosti omrežja (upravljanje nizkonapetostnih omrežij).

12 DANES / Obstoječi sistemi

Napetost MM



Datum

06/09/2021

05/09/2022

TP

T0366 GOLO BRDO

Izvod razdelilca

IZV-R02 T0366 GOL...

Šifra MM

All

7

Število MM

Urni filter

Select all

(Blank)

00

01

02

03

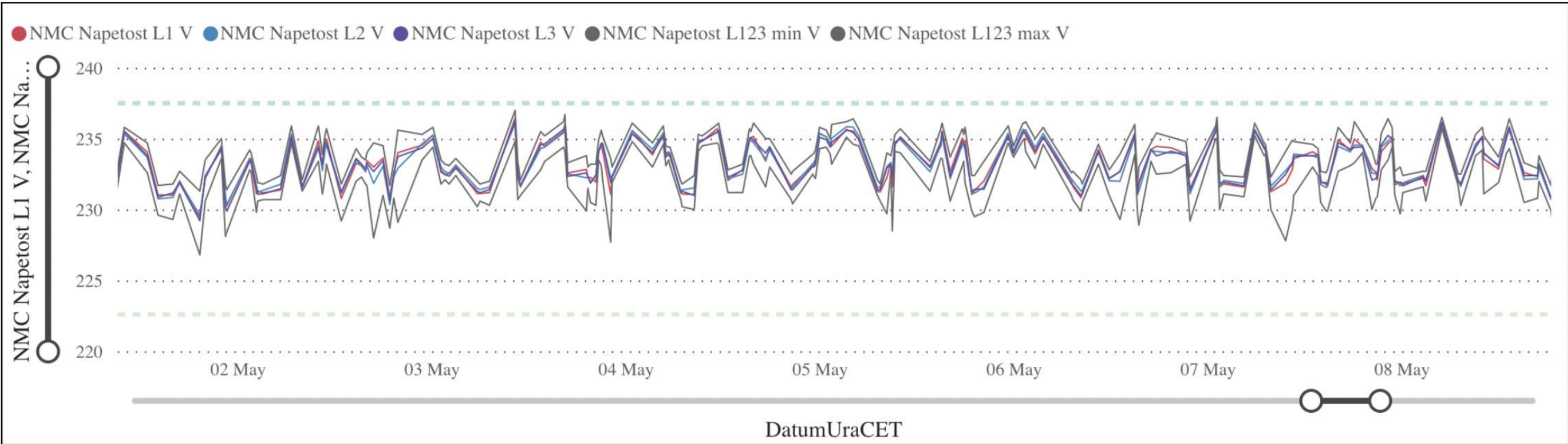
04

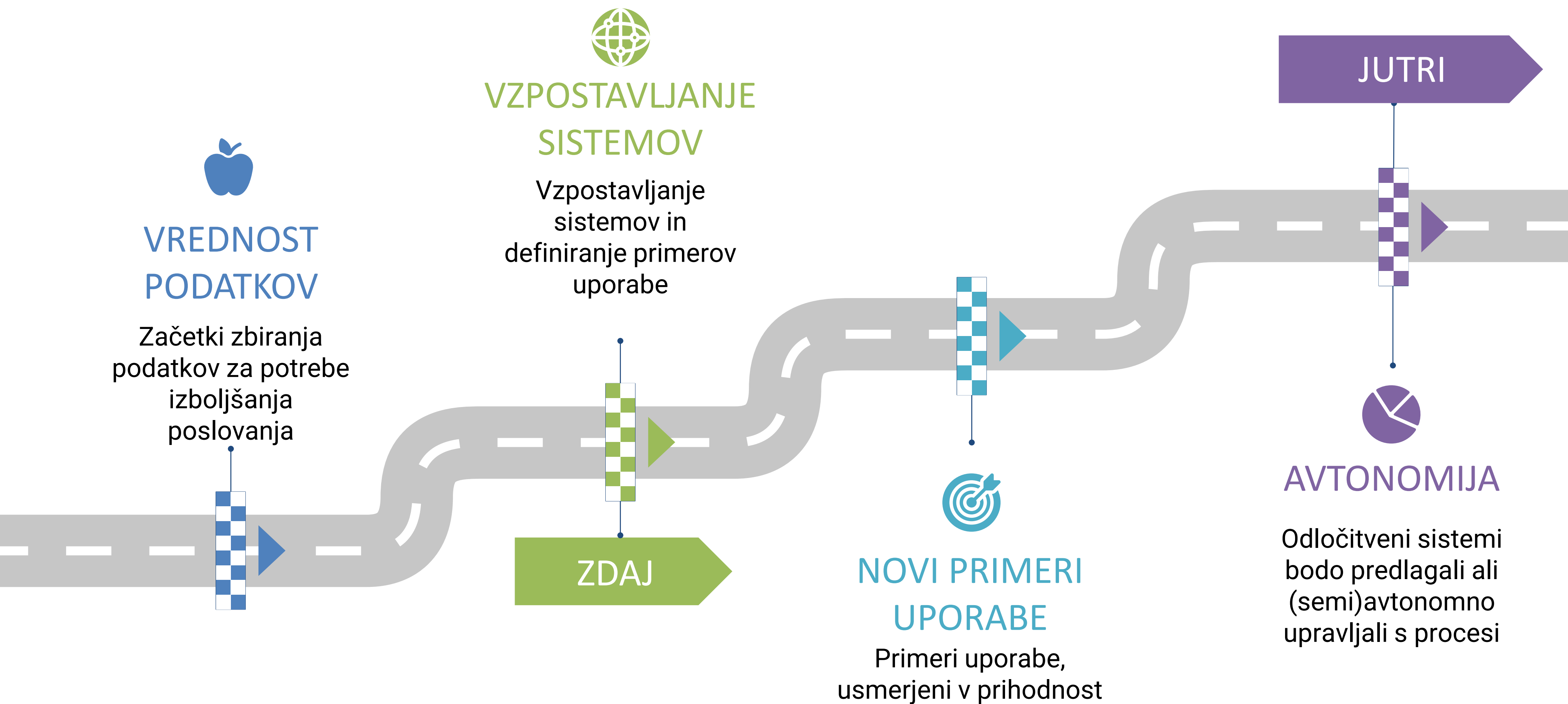
05

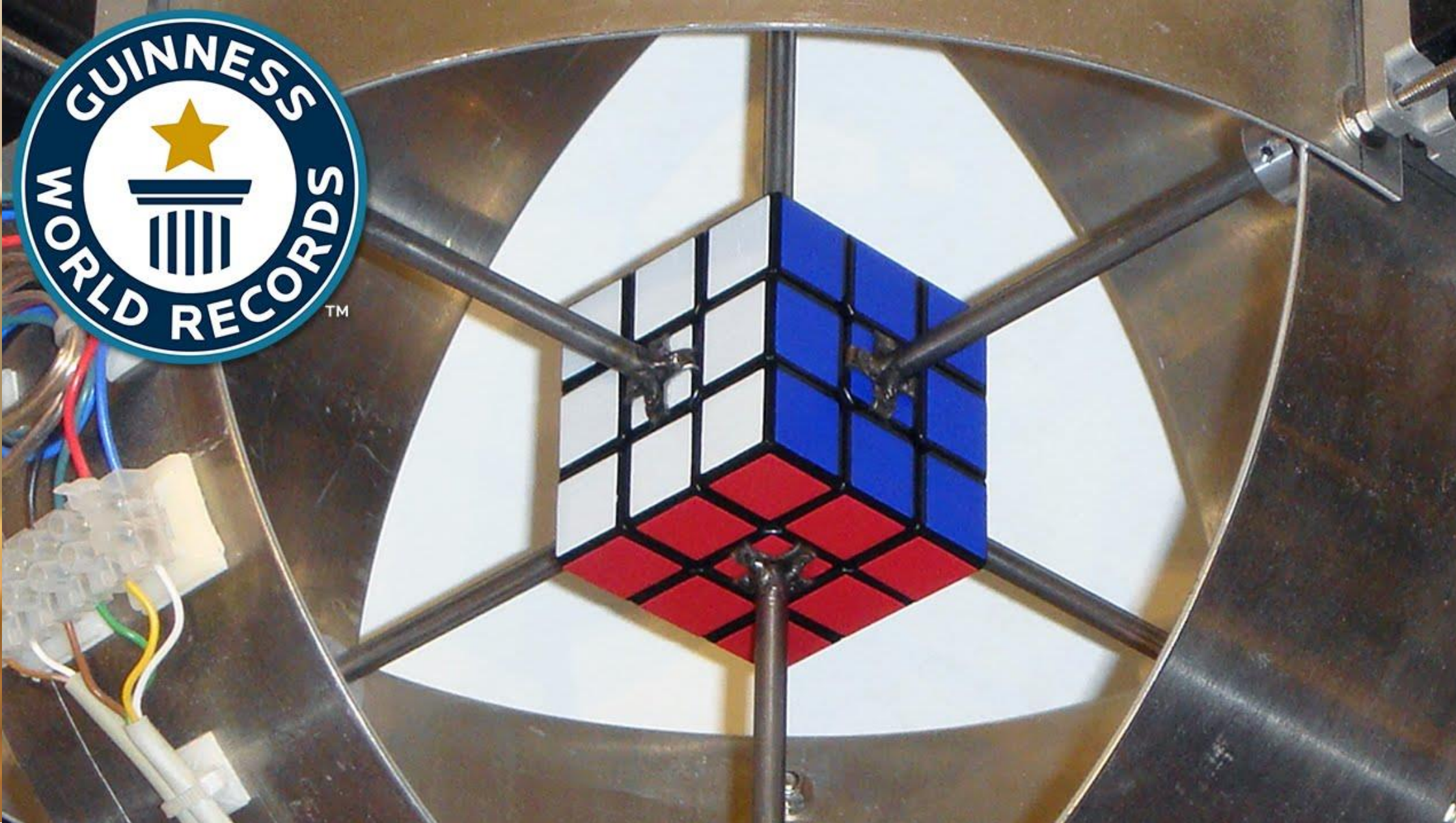
06

>

Mesec	L1 min [V]	L2 min [V]	L3 min [V]	MIN	L1 max [V]	L2 max [V]	L3 max [V]	M.
april	226.40	227.50	226.60	226.40	237.50	237.30	237.30	23
maj	228.50	227.10	227.80	227.10	237.40	237.30	237.20	23
marec	228.00	226.60	227.40	226.60	236.60	236.50	236.70	23
januar	225.90	223.30	225.30	223.30	236.00	236.60	236.30	23
februar	226.60	225.60	226.80	225.60	236.30	236.20	236.10	23
december	225.50	226.90	225.00	225.00	235.40	235.10	235.00	23
Total	225.50	223.30	225.00	223.30	237.50	237.30	237.30	23







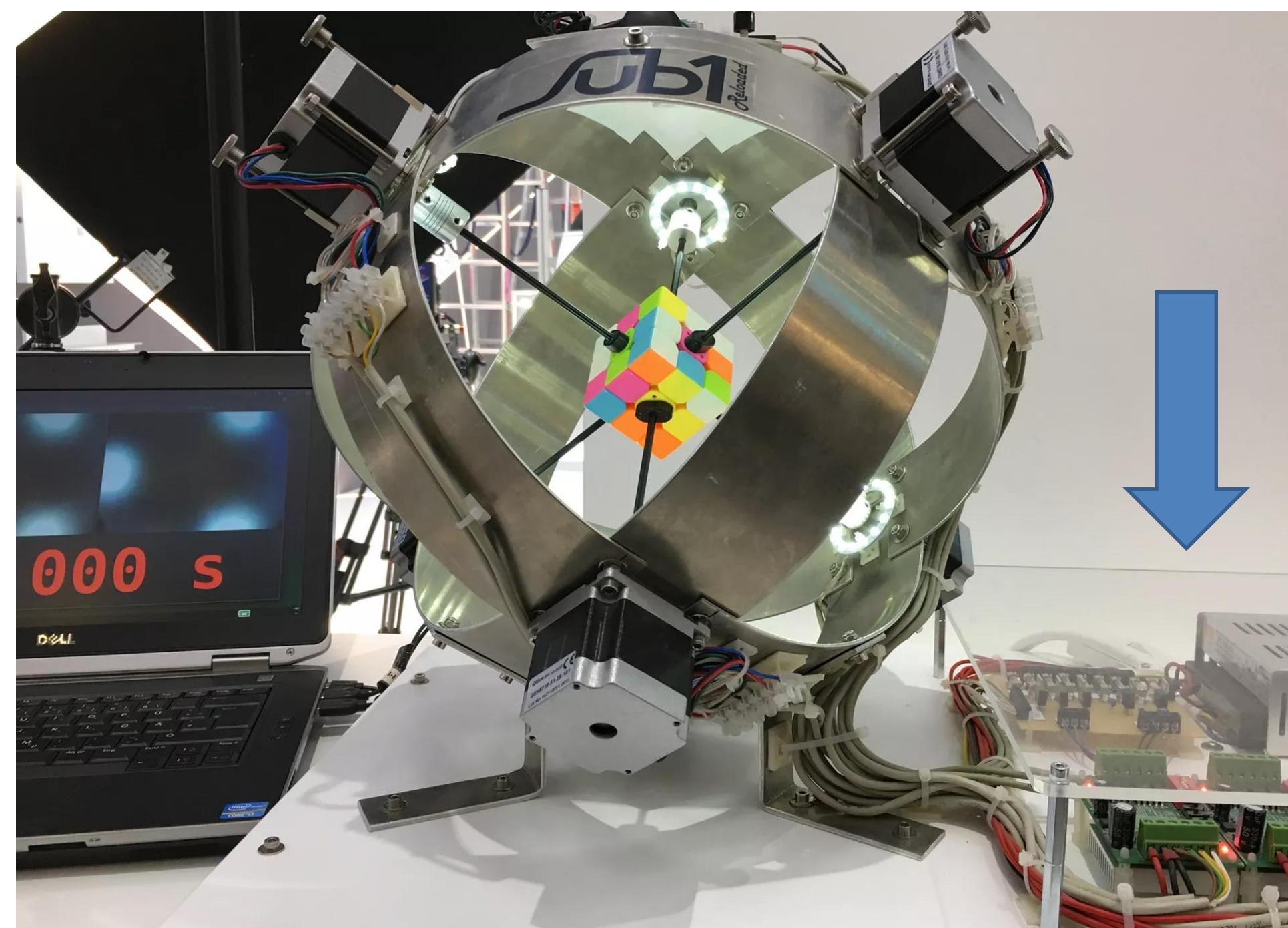
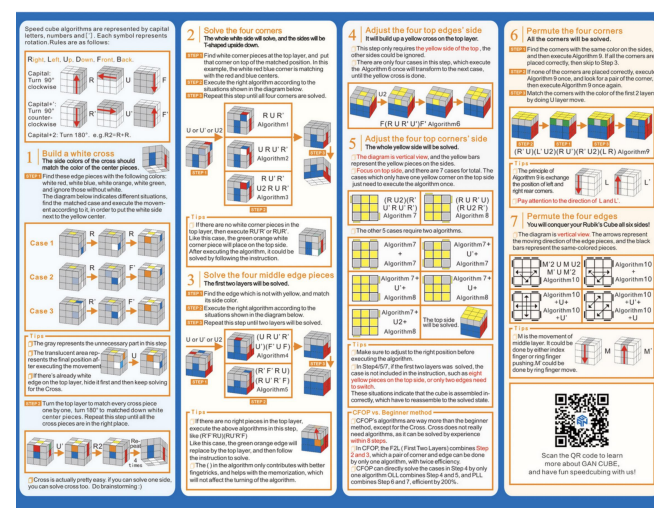
DISTRIBUCIJSKI SISTEM V PRIHODNOSTI

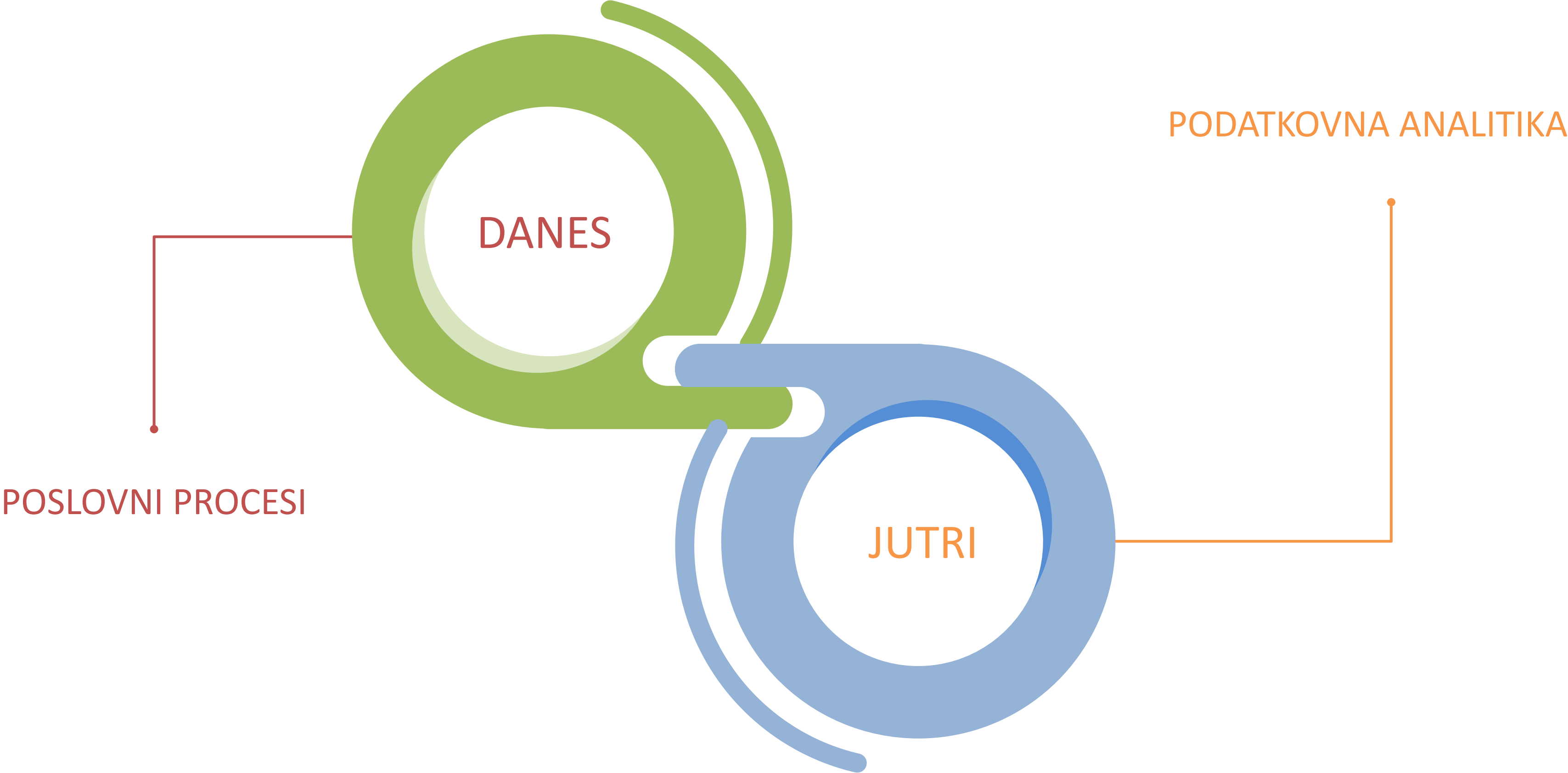
/ Podatkovna analitika JUTRI

“

The fastest robot to solve a Rubik's Cube is Sub1 with a time of 0.637 seconds, built by Albert Beer.

”





22 JUTRI / Električna vozila

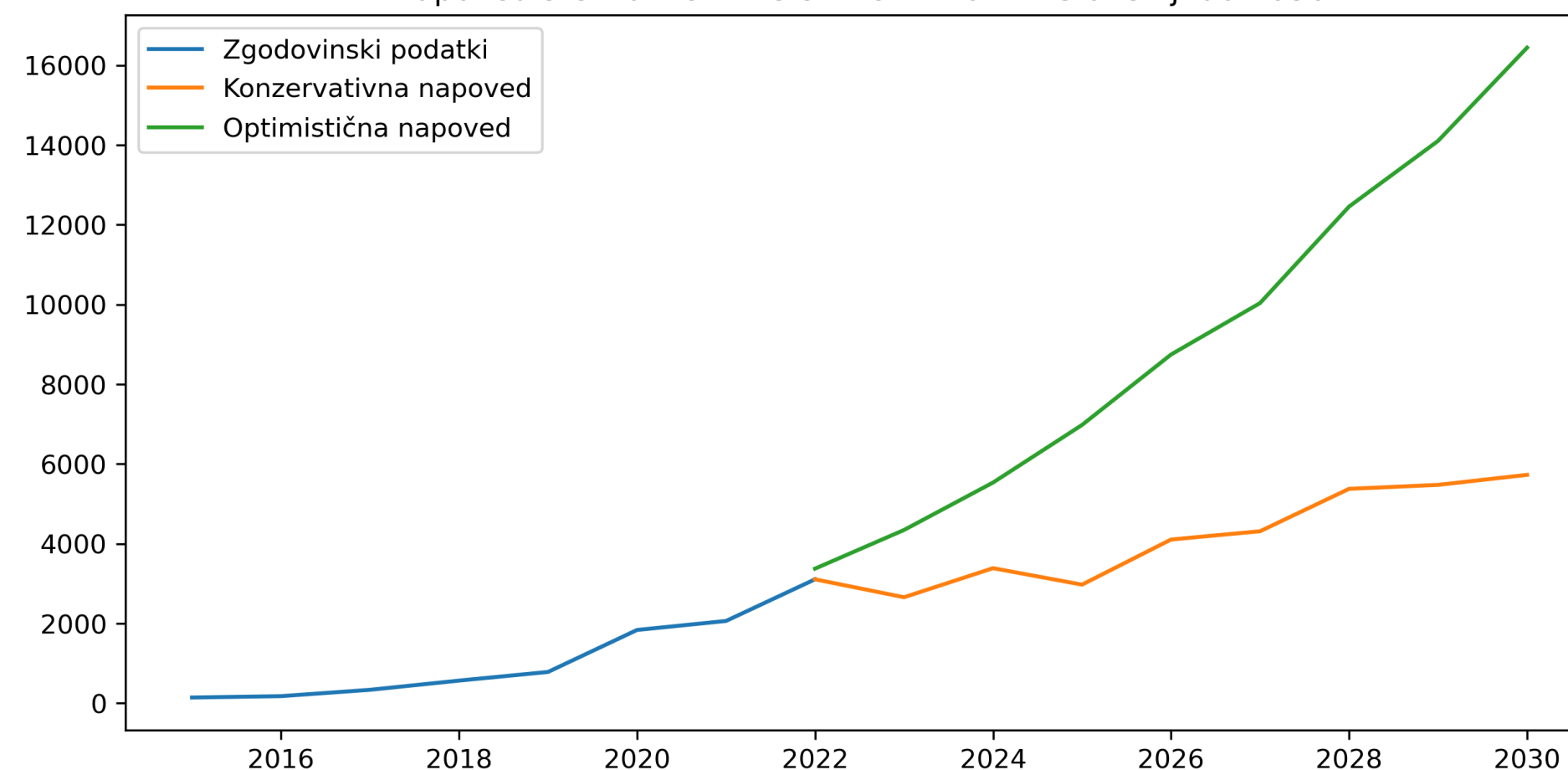
EV:

- Optimistična napoved:
cca: 100.000
- Konzervativna napoved:
cca: 50.000

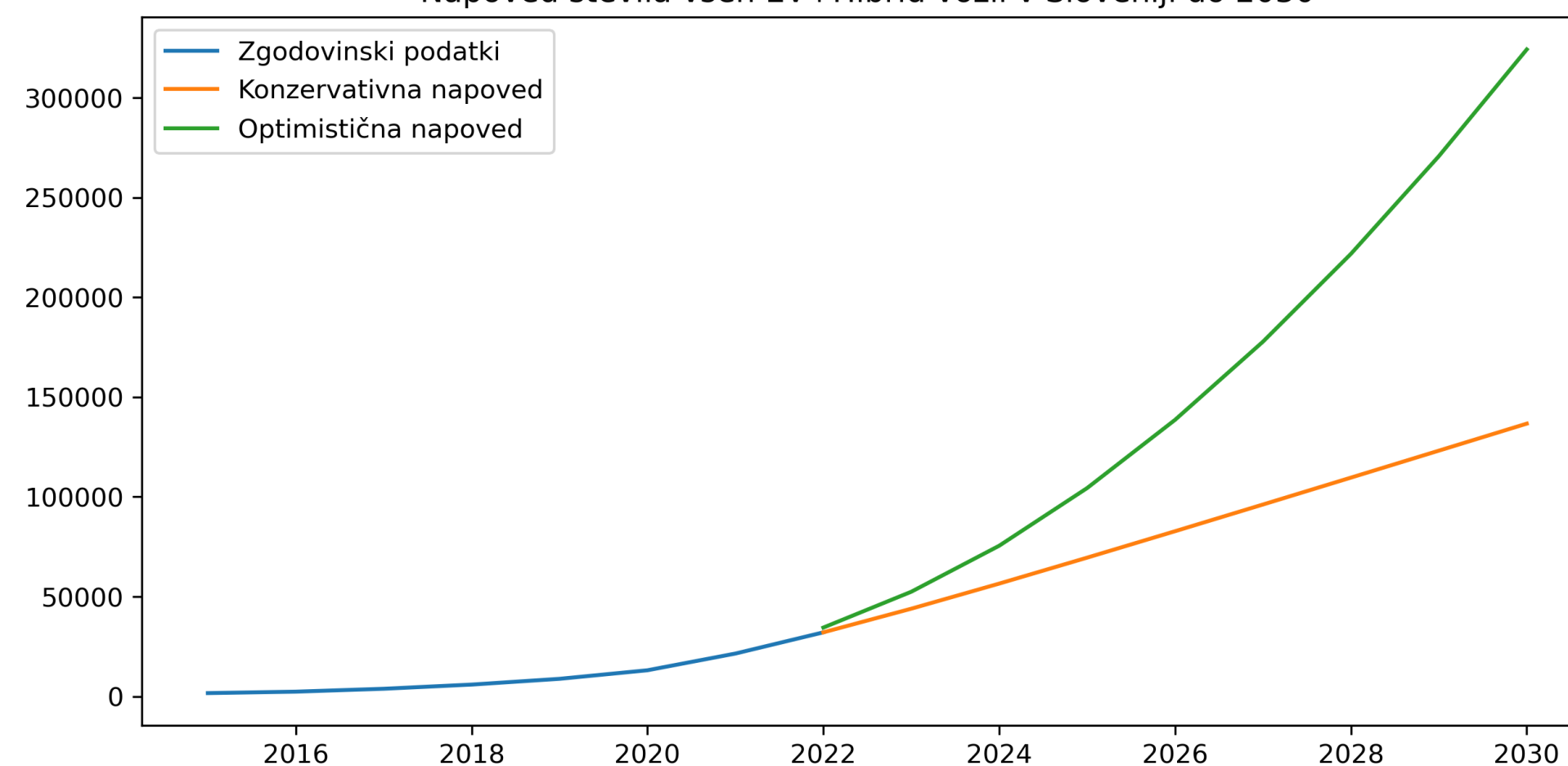
EV + HIBRID:

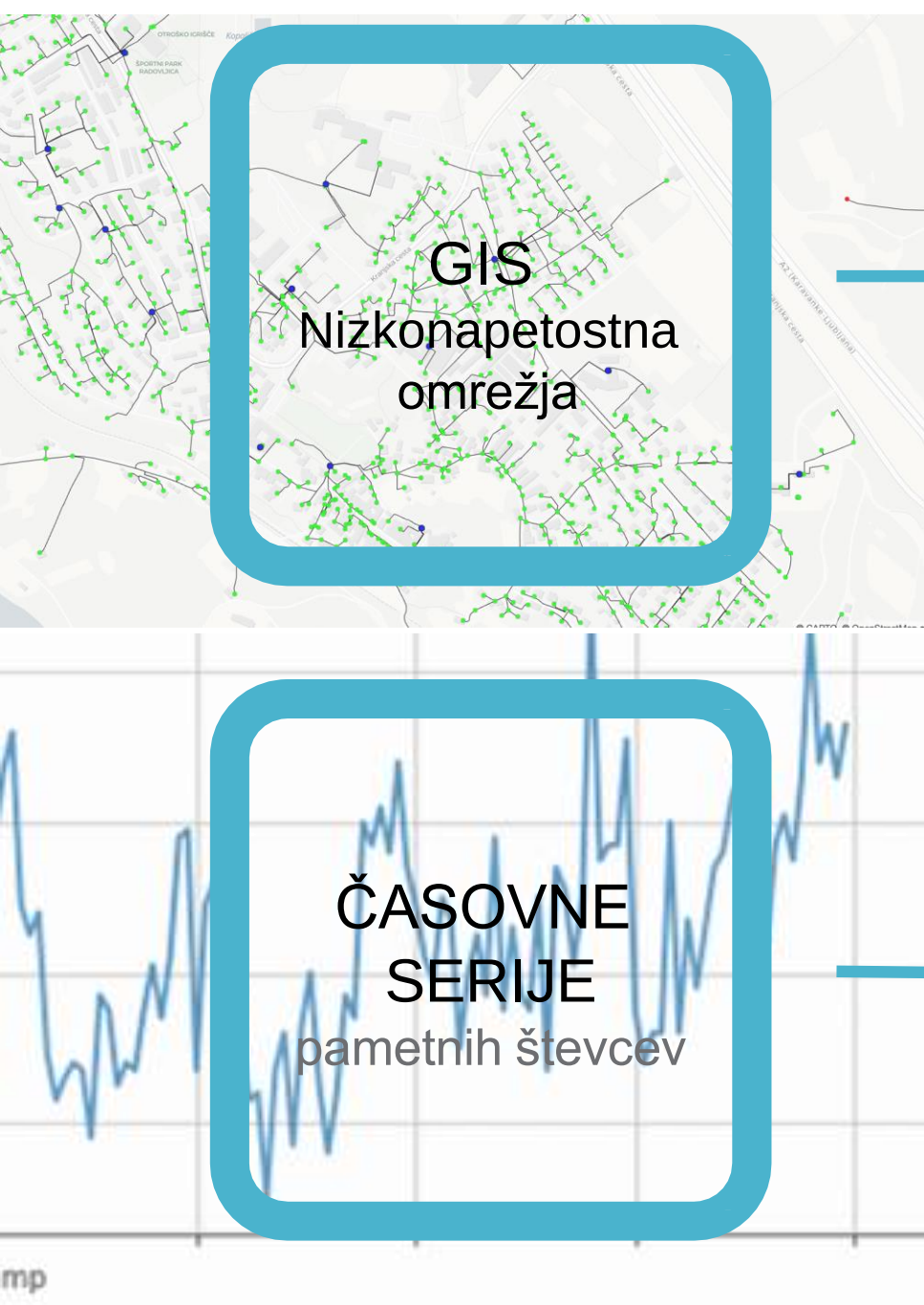
- Optimistična napoved:
cca: 320.000
- Konzervativna napoved:
cca: 150.000

Napoved števila NOVIH električnih vozil v Sloveniji do 2030



Napoved števila vseh EV+Hibrid vozil v Sloveniji do 2030





MASOVNI IZRAČUNI PRETOKOV MOČI

Ranga 1.000.000.000
izračunov pretokov moči
z Monte Carlo
simulacijami

REZULTATI

Izračuni
povečanja
obremenitev in
padcev napetosti

VKLJUČITEV 20.000 EV (EG - 10% ozemlja – 200.000 do 2030)

ZDAJ

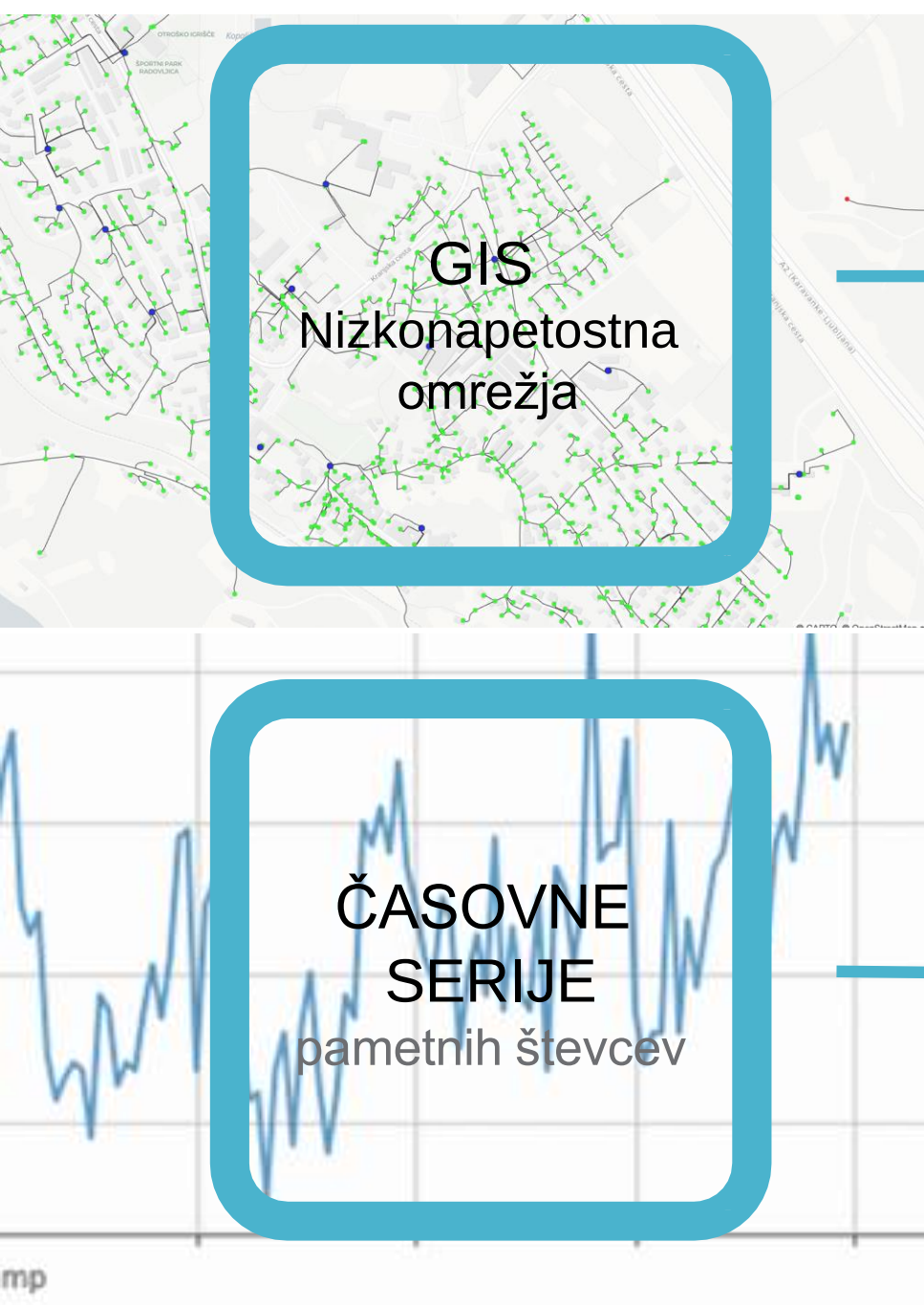
JUTRI (EV)

NAPETOST



PREOBREMENITVE TP
(99%)





UMERJANJE OMREŽIJ IN SIMULACIJA HRANILNIKA

Filtriranje merilnih mest z
izmerjenimi težavami,
reševanje težav s pomočjo
izrabe hranilnika

REZULTATI

1058 rešenih točk

23 JUTRI / Baterije

