

# My City Kills / Green Pole



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# Who are we?



- The civic movement “My City Kills” was established in 2018 on a social media platform Facebook with a sole purpose to emphasise and eliminate existing ecological and social problems in Tbilisi as well as in the whole country. This movement works to safeguard the rights of all people to clean air, clean water, and well protected and safe nature. The page has an engagement of 2-3 million people per month. During the last five years we have provided 15 000 000 people with various information and solved around 14,000 problems (damaged infrastructure, mismanaged waste, etc.).
- In 2020 an organization, “Green Pole” (<https://greenpole.org/>), was founded to further expand our civic activism.
- One of the main goals of “Green Pole” is to raise eco-awareness. Our team, on daily basis, collects information about the environment and its protection, stories about eco-developments in other countries, and translates related articles to share international news with the Georgian society.
- Our mission is to protect the land, air, and waters on which all life depends. Our vision is a place where people act consciously to conserve nature for its own sake and for future generations.



# Our social media platforms



<https://www.facebook.com/MyCityKills>



<https://www.instagram.com/chemiqalaraqimklavs>



<https://greenpole.org/>



<https://twitter.com/MyCityKills>





## Civic monitoring – The first steps



- Number of Air quality measuring devices: 1
- Pollutants: PM2.5
- Monitoring locations: Tbilisi (Kostava Street, Didube, Turtle Lake, Vake Park), Rustavi, Batumi (Abashidze Avenue), Kutaisi (Asatiani Street)



Year 2019



## Civic monitoring – The first steps



- Number of air quality measuring devices: **10** (QekTech Air Quality Monitor)
- Pollutants: PM2.5; PM10; PM1.0; HCHO (formaldehyde), TVOC (volatile organic compounds), temperature, humidity.
- Monitoring locations: Tbilisi (Kostava Street, Didube, Nutsubidze Plateau, Gldani 7th District, Digomi Massif, Didi Digomi, Temka, Avlabari, Saburtalo, Vake, Isani, Varketili), Chiathura, Sachkhere, Rustavi



Years 2020-2022



## The Start of Civic monitoring network



არგონ კავშირი 8.10.2023

- Project name: AirGE : Civic control of air pollution in the towns of Georgia
- Implementers: Arnika – Citizens Support Centre (Czech Republic) & Green Pole (Georgia)
- The first stage of network development: Functional network of 30 civic air monitoring stations
- Coverage: 5 cities of Georgia - Tbilisi, Rustavi, Chiatura, Kutaisi, Poti



Year 2023



## The Start of Civic monitoring network



ჩვენ კავშირი მკვლევარს

- **Device name:** AirGE
- **Device structure:** Sensors, MCU, Antenna, power
- **Sensor hardware:** Main board, Sensor board.





# The Start of Civic monitoring network



ARMAN JASRAN 8J0333



Main board



Sensor board



# The Start of Civic monitoring network



ARMAN JAVADIAN @JAVADIAN

## Particulate matter sensors **Plantower PMS 7003**

Type	Laser Scattering PM
Measurement range	0.3~1.0; 1.0~2.5; 2.5~10 $\mu\text{m}$
Resolution	1 $\mu\text{g}/\text{m}^3$
Interface	UART
Supply current, active	< 100 mA





# The Start of Civic monitoring network



ARMAN JAVANBAZI

## Weather sensors **Bosch BME280**

Type	Weather
Measurements	Temperature, Humidity, Pressure
Accuracy	$\pm 1.0^{\circ}\text{C}$ , $\pm 3\%$ , $\pm 1$ hPa
Interface	I2C
Supply current, active/sleep	1 mA / 5 $\mu\text{A}$





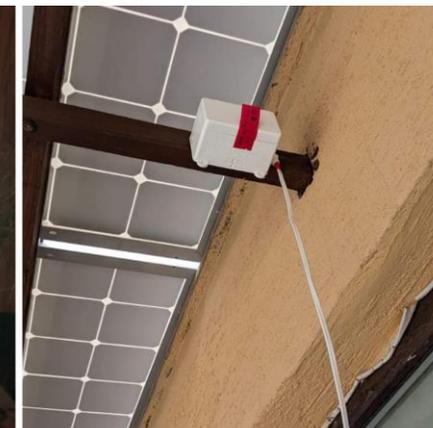
## The Start of Civic monitoring network



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### Tips for placement:

- height should be as possibly close to the earth (up to 2-3 floor)
- north side or covered from the sun to avoid overheating
- heavy traffic streets and pollution spots are of most interest
- free access to the air flows
- direct dust sources (mechanisms, ventilation appliances, smoking areas) **should be avoided**
- avoid direct rain and snow contact
- collocate with official monitoring stations!





# The Start of Civic monitoring network



ჩვენი ქალაქი მკვას

## Data accessibility:

- Daily posts on the “My City Kills” Facebook page twice a day informing the public about the state of air quality
- The Primary source: AirMQ website



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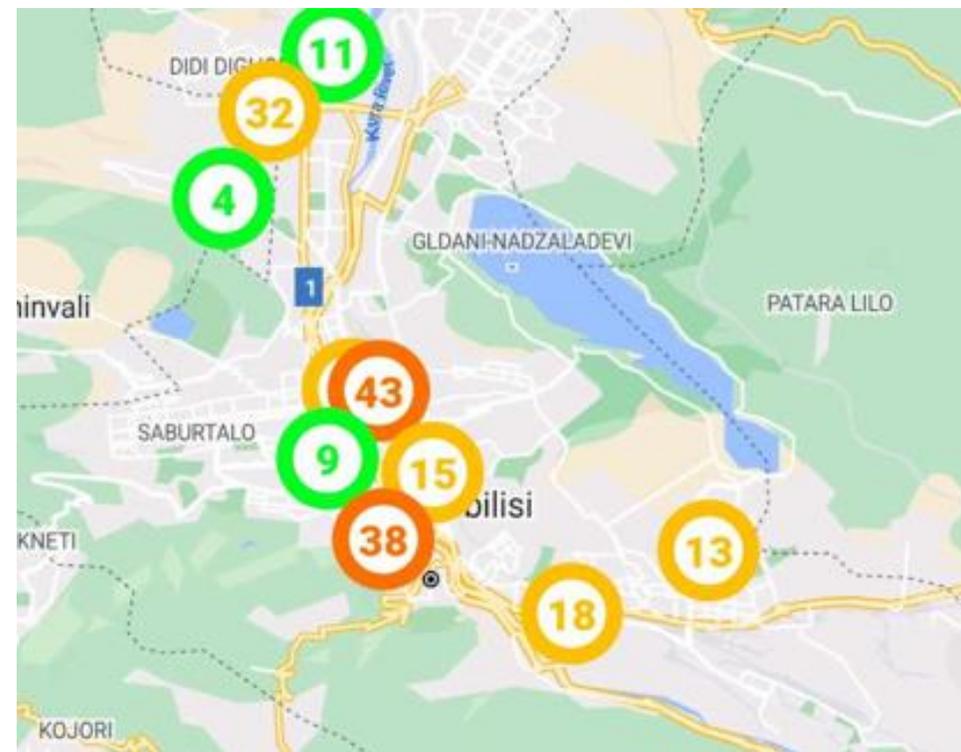
# The Start of Civic monitoring network



საგარეო ურთიერთობების სამსახური

## Current Coverage:

- 16 Devices installed in Tbilisi
1. 35 Kavtaradze street, Vazha-Pshavela VII district
  2. 12 Zugdidi street
  3. Didi Dighomi, Mirian Mepe Street
  4. 26 Agladze street
  5. Tbilisi, village Dighomi
  6. 26 Mtskheteli Street, Ponichala
  7. 57A Vagzali street, Ponichala
  8. 12B Navtlughi street, Isani
  9. 8 Marti street, Mtatsminda
  10. Varketili 1<sup>st</sup> district
  11. 9 Viktor Dolidze street
  12. 5 Grigol Peradze street, Didi Dighomi
  13. 19 Tamarashvili street
  14. 15A Barisakho street
  15. 7 Tadzari street, Didi Lilo
  16. 20 Chitaia street





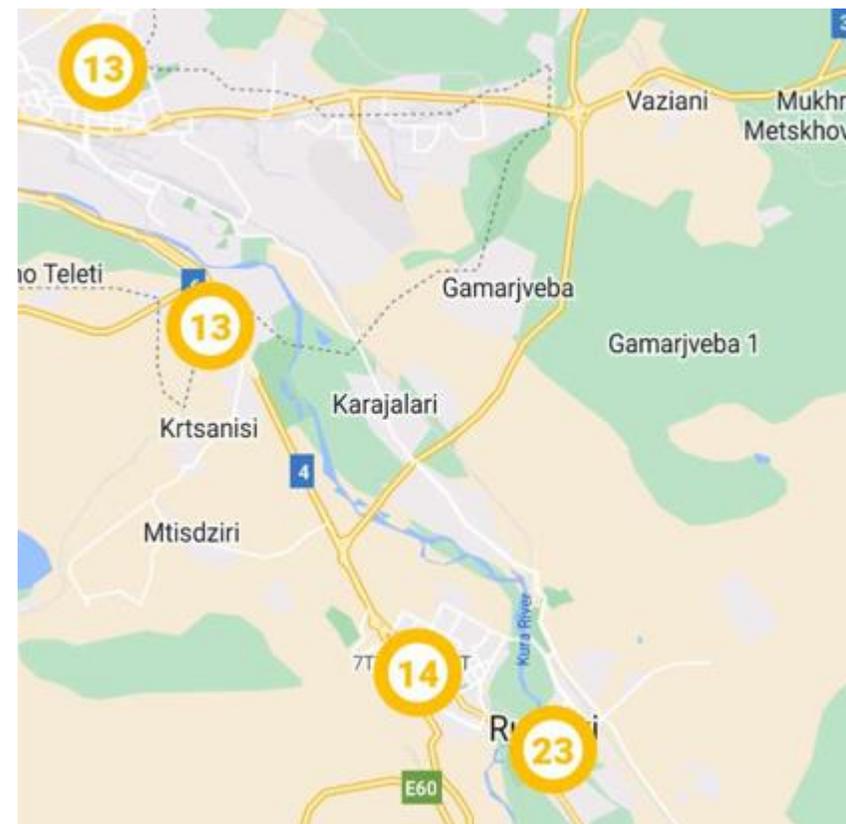
## The Start of Civic monitoring network



განთავსდა მონიტორინგის მოწყობის

### Current Coverage:

- 4 Devices installed in Rustavi
1. 64 Modebadze street
  2. 6 Lomouri street
  3. 42 Turgenevi street
  4. 24 Kostava Street





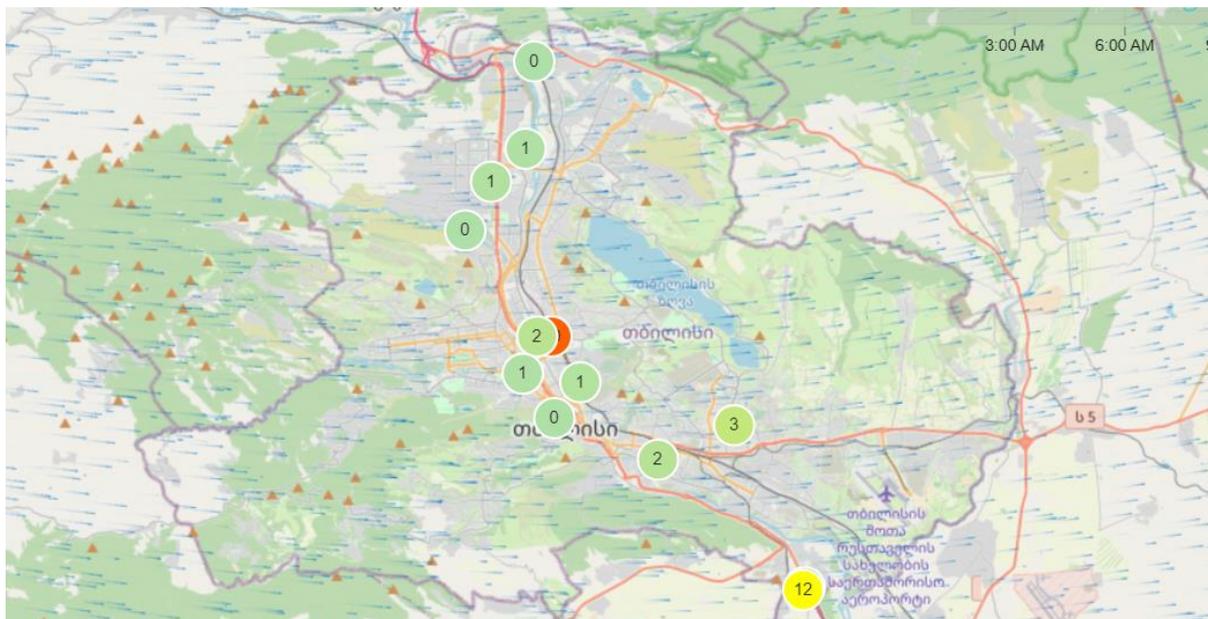
The Start of Civic monitoring network



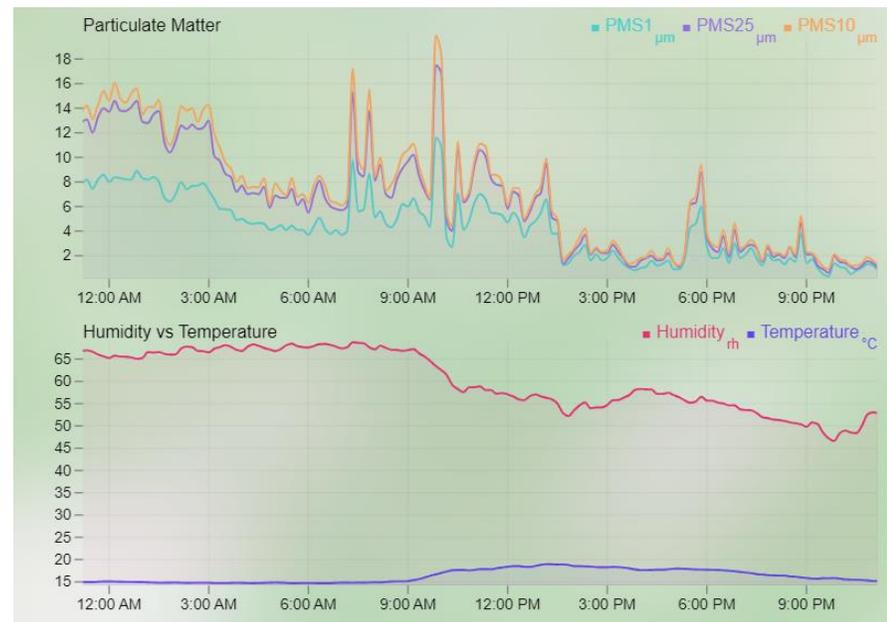
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# IT infrastructure

## Front End Applications



Map



Chart

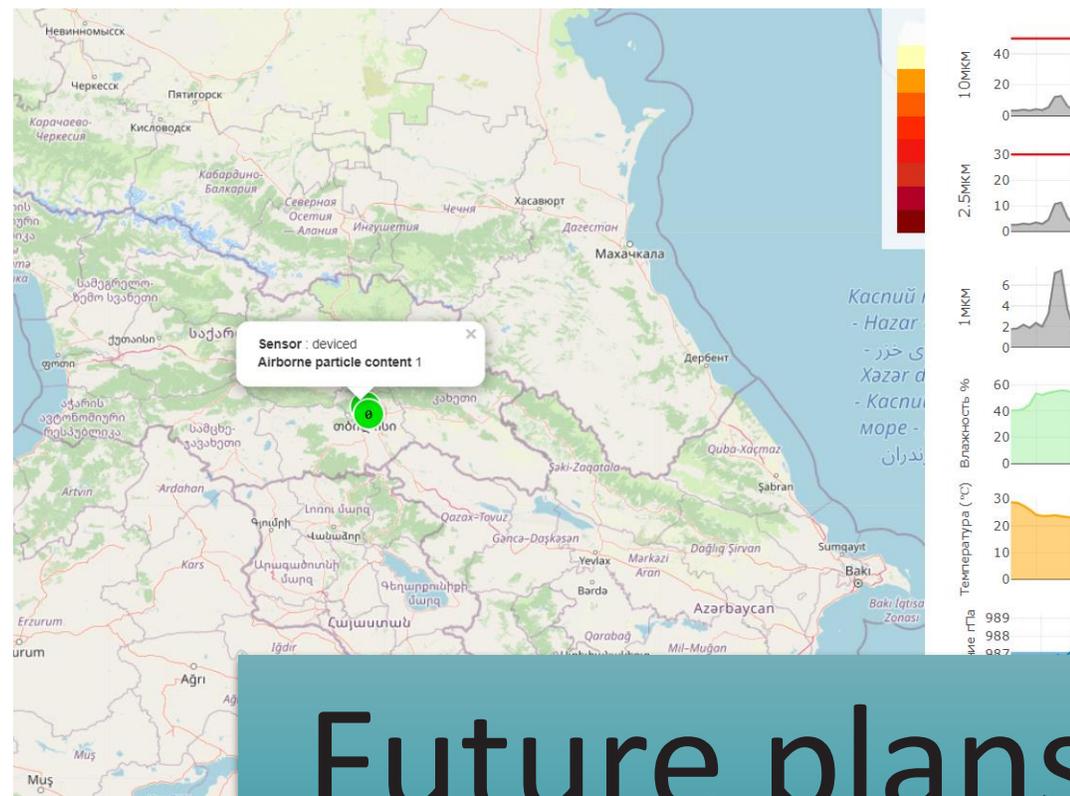


## Further development of civic monitoring network



საგარეო საზღვარების დაცვის აგენტობა

- By the end of 2023 – 30 devices installed across Georgia
- The Year 2024 – additional 70 devices across Georgia with the sensors for SO<sub>2</sub> and NO<sub>x</sub>



# Future plans

# Thank you for your attention!



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