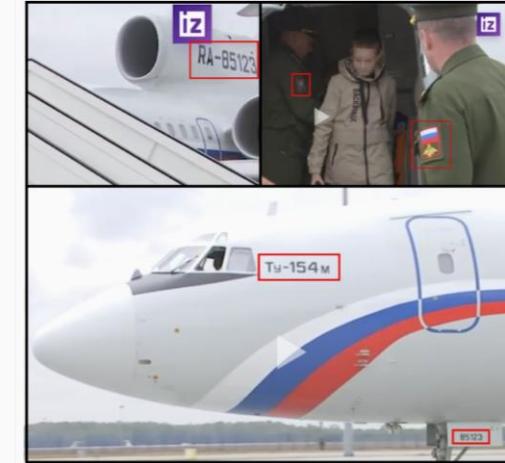


In 2022 and 2023, as the war in Ukraine intensified, subreddit posts emerged suggesting that thousands of Ukrainian children had been taken into Russian territory, allegedly for adoption or “re-education.”

search of the insignia on their arms revealed that this was, indeed, a patch worn by the Russian airforce personnel.



Screenshot of a Reddit page from the r/ukraine subreddit. The main post features a headline: "Brazenly and on camera, the Russians kidnap orphans from the occupied territories of Ukraine and say that it is 'for their good.' The Russian terrorists commit more war crimes by kidnapping Ukrainian children and scattering them across 13 regions of Russia. Reminiscent of Hitler's Germany." Below the headline is a video thumbnail showing a woman speaking in front of a banner that reads "To this date, 120 children have arrived on the territory of Moscow". The sidebar shows other posts from the subreddit, such as "Russian woman lost her son in Ukraine, so she kidnapped a..." and "Russia 'sending kidnapped Ukrainian children to front line'".

---

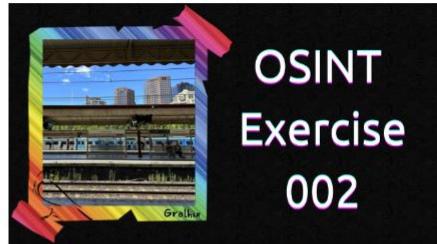
This is not espionage.  
This is ethical,  
transparent, and  
science-based sleuthing  
— using open data to  
tell truths.

Without further ado, here is the list of exercises!

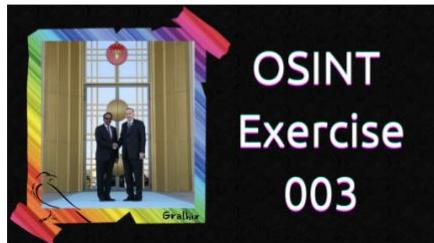
All feedback is welcome. Have fun!



🧐 – Hard // 🕵️ - Medium



🧐 – Easy ~ Hard // 🕵️ - Easy ~  
Medium



🧐 – Medium // 🕵️ - Easy



🧐 – Easy ~ Medium // 🕵️ - Easy

# NO<sub>2</sub> Emission Investigation in Göd, Hungary (2022–2024)

Google Earth Engine  
in Action



# From CRT television factory to Samsung's EV flagship project

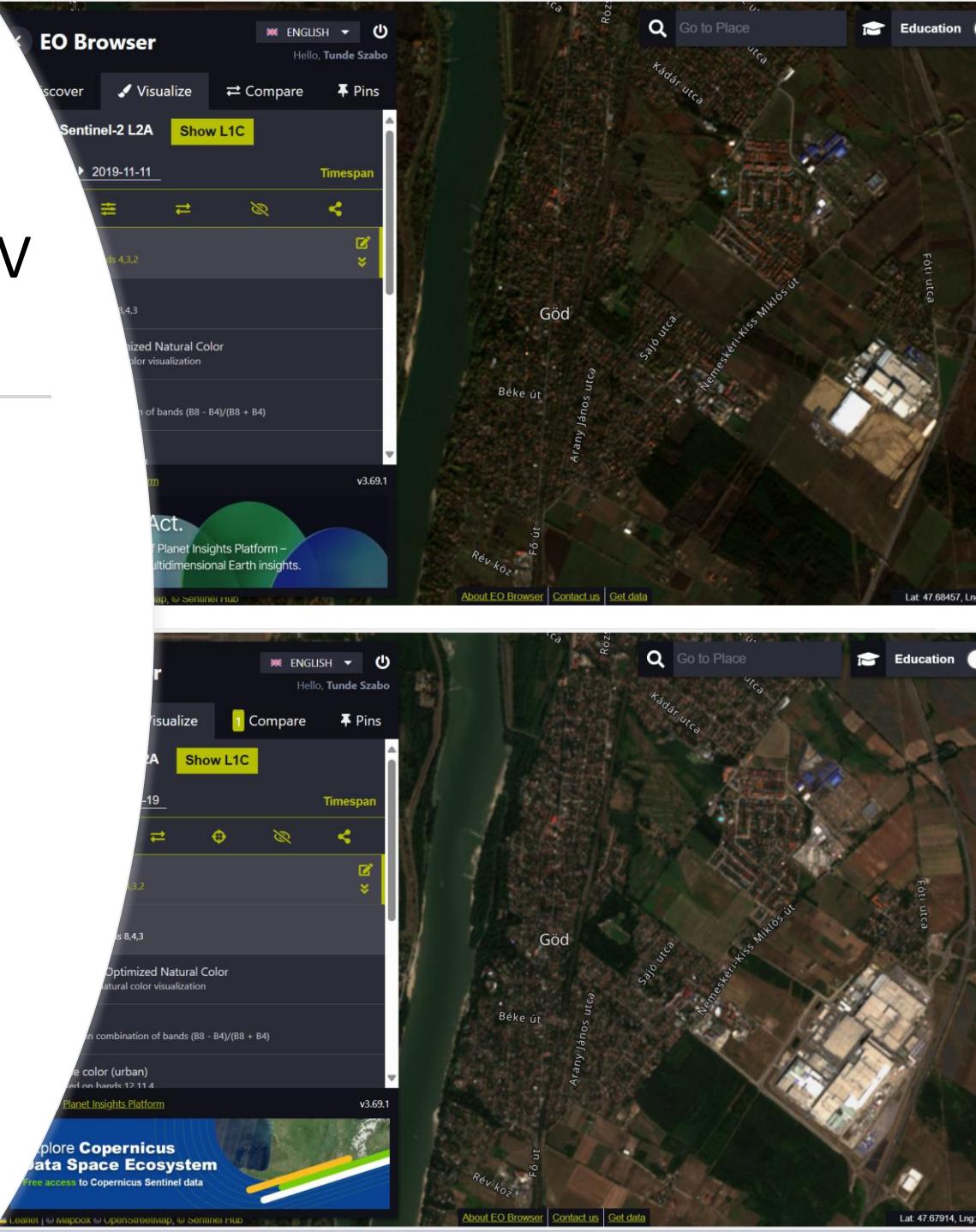
Samsung SDI Göd:  
47.679692, 19.166703

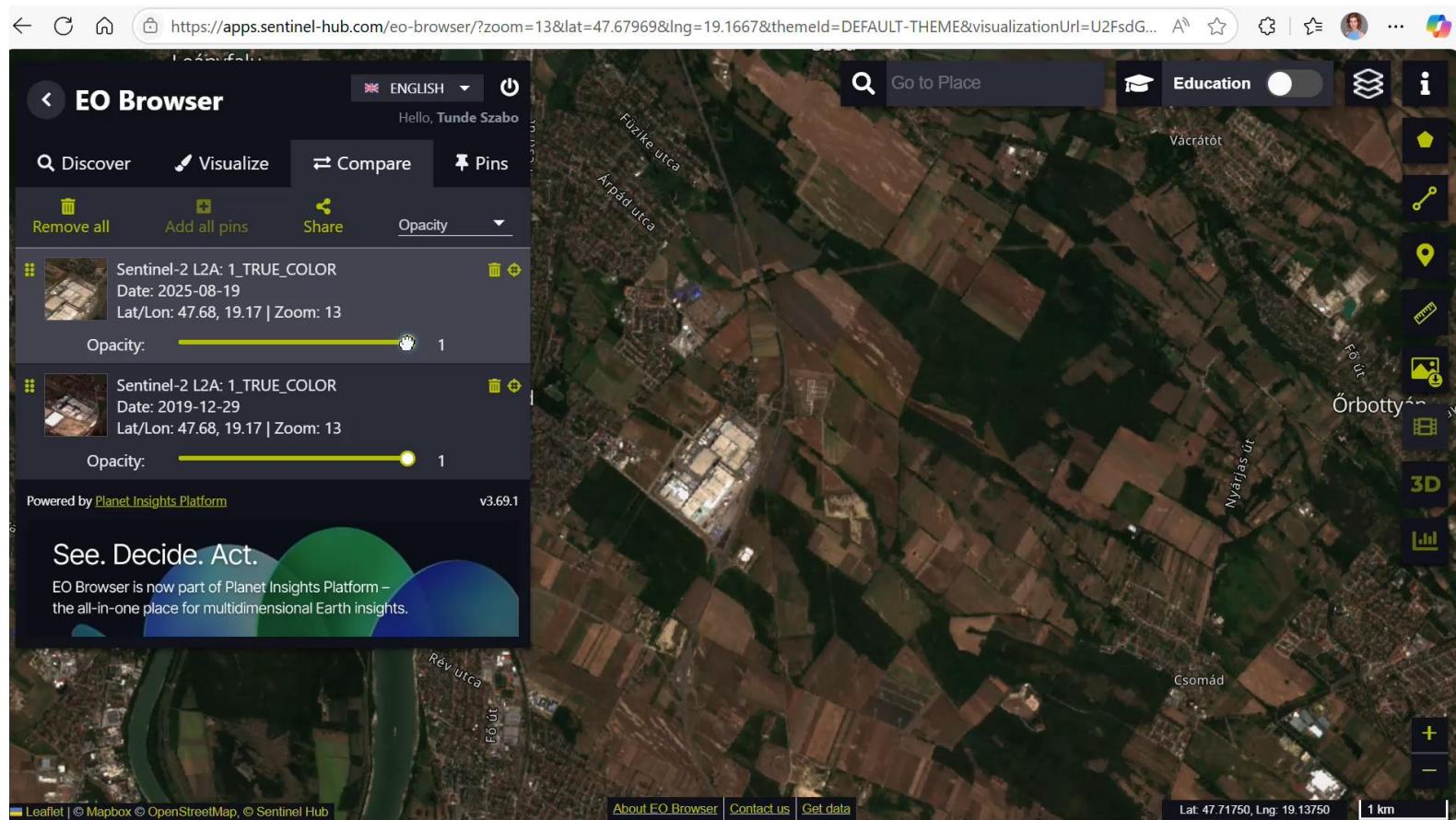
2019. 12. 29.

[Sentinel Hub EO Browser](#)

2025. 08. 19.

[Sentinel Hub EO Browser](#)





# Expanding operation right next to the drinking water source of 1,7 M people

# Hungary: A Hub for the Far-Eastern EV Boom

---

Korean and Chinese giants (Samsung SDI, CATL) are rapidly expanding their production in Hungary.

The EU electric vehicle industry's dependence on imported batteries is increasing.

But what are the local consequences?



# Operates under weak legal / regulatory framework



## **Operating without a valid permit**

Authorities did not immediately shut down operations,  
Expansion Approval during permit disputes

## **Ambiguities in permit scope and conditions**

Which parts of the facility fall under the “unified  
environmental permit”

## **Poor public access to emission data and monitoring**

Battery plants emission include solvents, volatile organic  
compounds (VOCs), particulates, etc., many of those are  
not easily measured or disclosed

# Google Earth Engine data provision

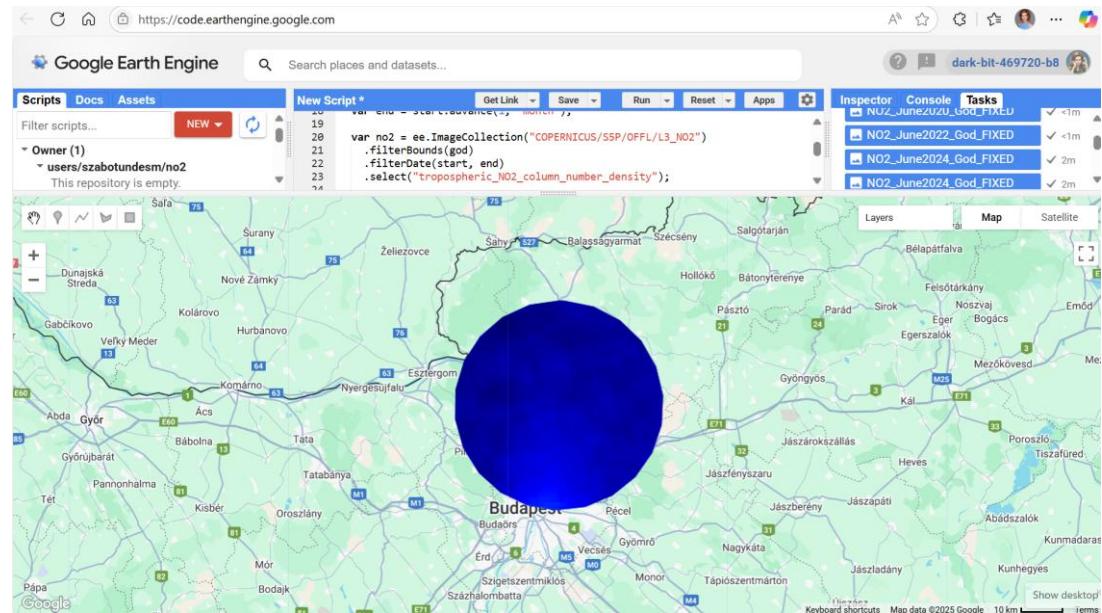
Satellite imagery: MODIS, Sentinel-2, Sentinel-5P, Landsat, VIIRS

Atmospheric data: NO<sub>2</sub>, SO<sub>2</sub>, O<sub>3</sub>, CO, CH<sub>4</sub> (from Sentinel-5P TROPOMI)

Climate models, land use, topography, vegetation indices

Temporal granularity: Daily to monthly composites

Spatial granularity: 10 m to 10 km resolution, depending on the sensor

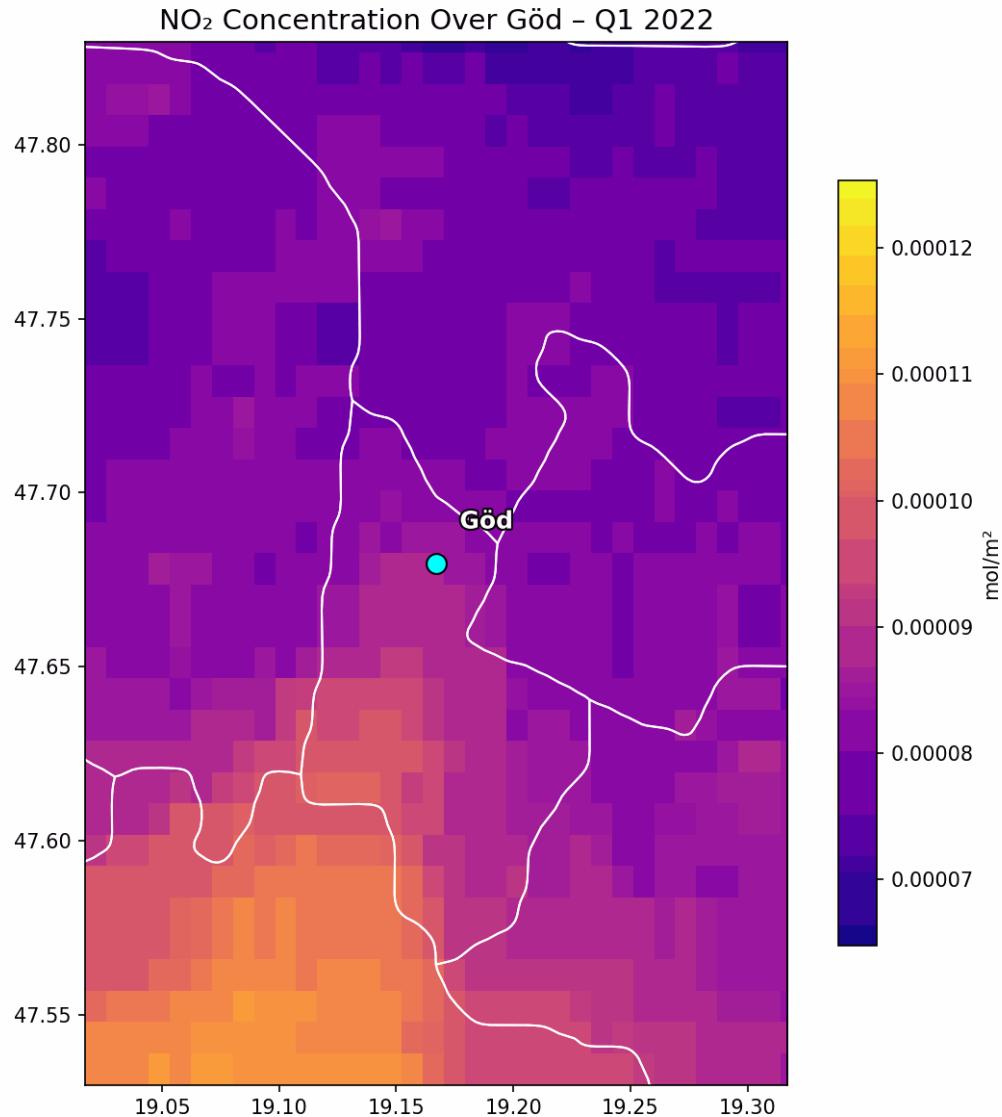


# Circumstantial evidence vs. facts

Report on the use of hazardous solvents (NMP) in Hungary: 88 tons over 3 years (Atlatszo)

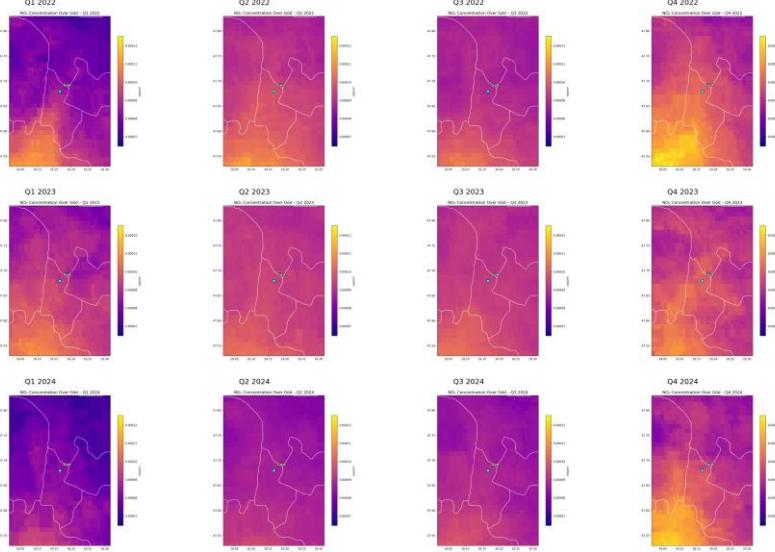
Residents complain about deteriorating air quality, noise, and shiny airborne deposits coming from the factory

The monitoring wells used to measure groundwater contamination were already buried during the construction phase

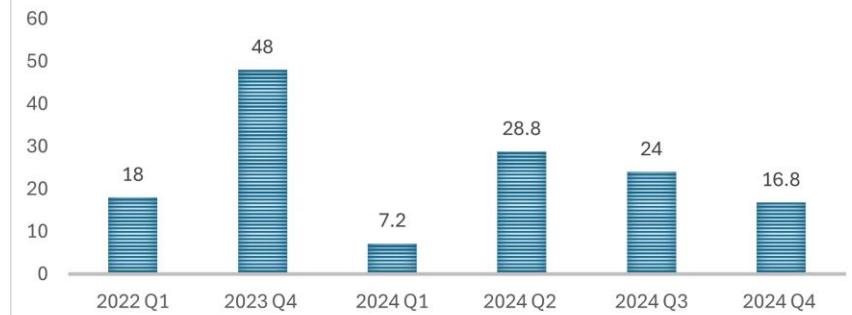


## Earth Observation systems applied for spatial reasoning

Quarterly NO<sub>2</sub> Concentration – Göd (2022-2024)



## GÖDI SAMSUNG SDI TERMELÉSE, 2022 Q1 - 2024 Q4, MILLIÓ AKKUMULÁTORCELLA



Output of Samsung SDI Göd, million battery cell

NO<sub>2</sub> emissions are correlated with changes in production volume

Even in cases where ground-based measurement becomes impossible, we can detect and track pollution sources