

# Groningen infrastructure walk

2025-11-26 (Tuesday)

critical infrastructure lab (Maxigas)



## Field survey

- I gathered a collection of maps that were displayed in public spaces and showed the surrounding area of the inner city that the walk would cover
  - I choose a path leading from the stairs of the Academiegebouw in the middle of the city centre through the Grote Markt currently occupied by the Christmas market, to the bridge on the canal that marks the border of the city centre.
  - I noticed newly installed lightning rods on the University of Groningen buildings, which had new stickers and a lot of information on them.
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## Mobotix M16 security cameras on the building of the Faculty of Law

Mobotix M16, from the same company that makes the doorbell cameras. Interestingly, and probably illegally, these cameras have microphones and speakers built into them. For example, students regularly smoke below the camera on the photographs and they can be heard and recorded by the security camera. *Good stuff to raise with the university administration, the municipality or the local police!*

## Seagull monitoring the Grote Markt

There are not only devices that are used to monitor the area but also animals and humans are looking. This seagull sits on top of a sign that shows the direction to various places. It is probably monitoring whether someone loses some food that it can lunch on.

## Mobile phone masts

We visited the mast next to Grote Markt whose sector antennas cover the Academiegebouw where the walk started. My phone showed a “5G” connection to KPN. But these antennas seemed to be only LTE (aka 4G) in all the maps and apps where I could check.

More information can be found (for example) on the Antennakaart and Antennaregister of the Netherlands.

## Unknown security camera on bank

The camera on the bank could not be identified according to a specific make and model. This camera appears in the Sensorenregister Groningen but some argued that it is actually installed and used by the bank. It would be good to ask the Municipality about it. The installation looked relatively new, or it was just very clean. The





Figure 1: Map of Groningen Centrum





Figure 2: Map of Grote Markt on an intelligent display (you have to press a button to get this)





Figure 3: Tactile map of Groningen in front of the Tourist Information Office





Figure 4: Lightning rod info





Figure 5: Lightning rod info





Figure 6: Lightning rod info



Figure 7: Mobotix M16



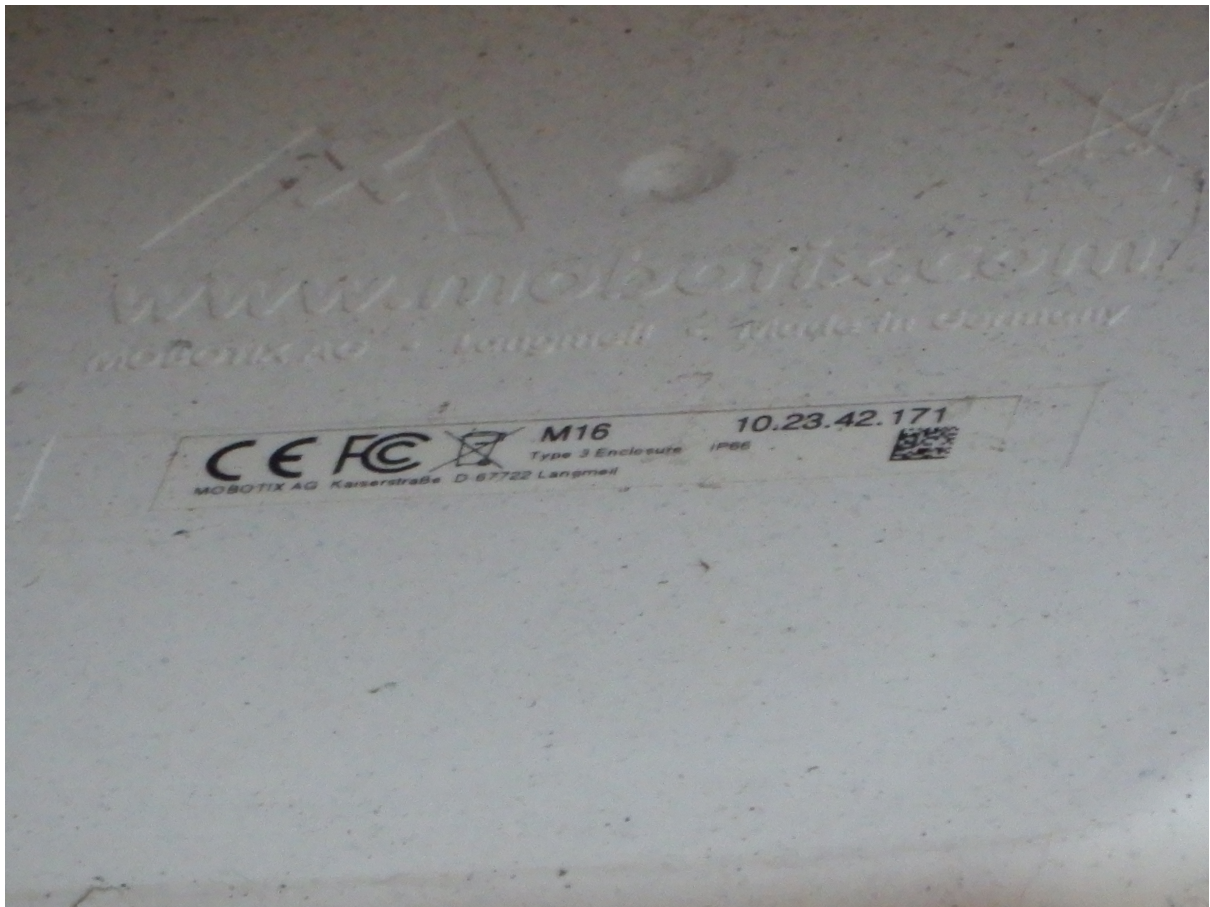


Figure 8: Mobotix M16









Figure 10: KPN LTE mast next to Grote Markt



Figure 11: KPN LTE mast next to Grote Markt





Figure 12: KPN LTE mast next to Grote Markt



camera was hooked up to a second generation Uniquity Nanobeam point-to-point 5GHz wifi radio, which probably has a pair somewhere on the other side of the Grote Markt. However, in the field survey I could not find a pairing installation and during the walk we had no time to investigate further.



Figure 13: Observe how the camera is hooked up to a wifi radio below it.

### **BUKO WAAKT security camera on contruction site**

The public signage on this portable camera mast is extremely prominently displayed. They warn people of camera surveillance and provide a contact phone number as well. Maybe they got into trouble before! The camera itself was not so interesting but there was a square device with smoothed corners that looked mysterious. The mystery device is manufactured by Nedis, a known company that makes security equipment, but oriented towards the consumer market. Not really industrial stuff. A friend later suggested that it might be a LoRa radio. More research needed!

### **Martini tower**

A participant suggested that the Grote Markt is actually surveilled not only with security cameras but also by two public webcams, so we are on live feed to the public





Figure 14: Camera close up





Figure 15: Uniquity Nanobeam generation 2





Figure 16: BUKO WAAKT portable security camera mast installation – context



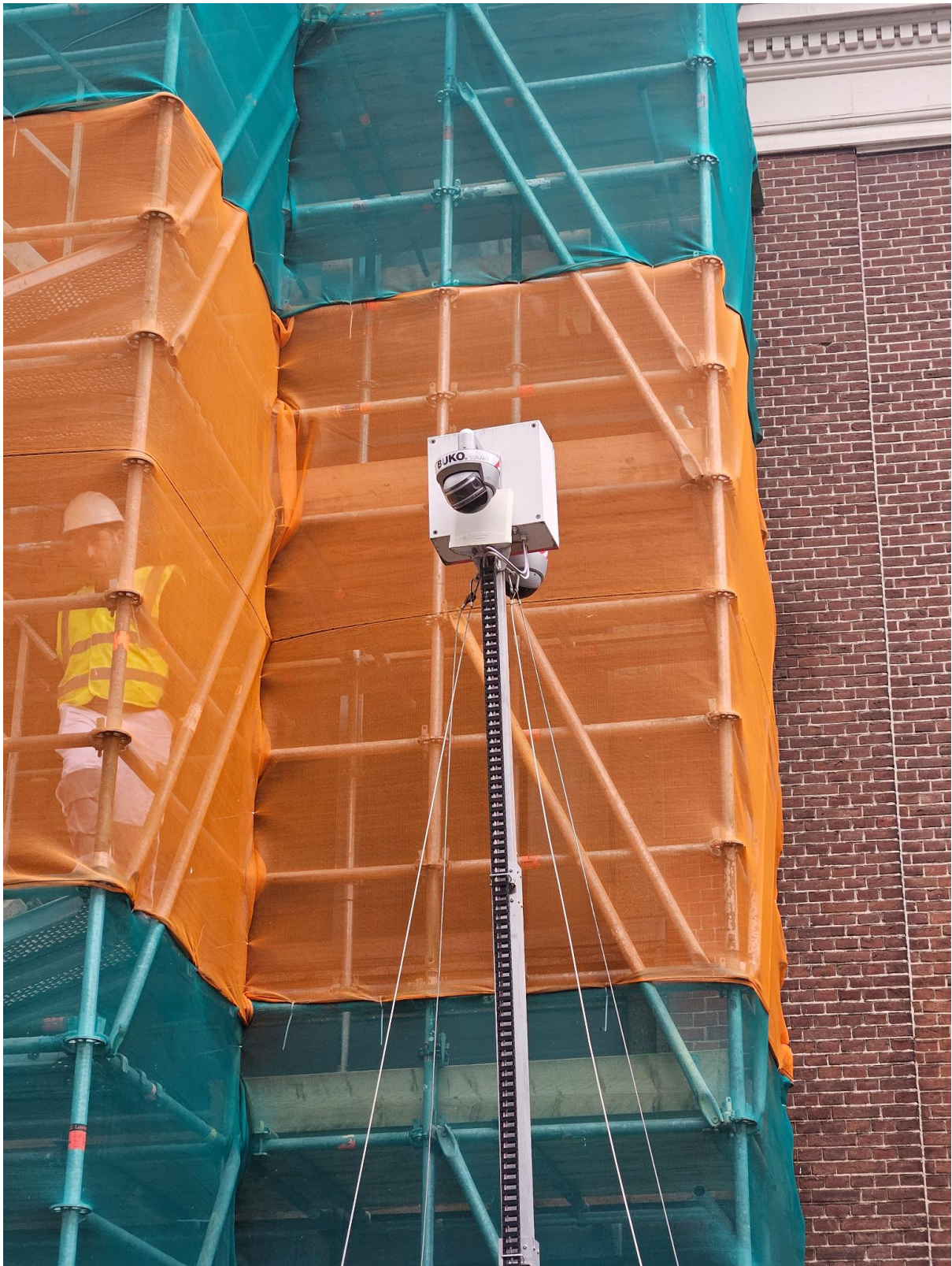


Figure 17: BUKO WAAKT portable security camera mast installation – narrow context





Figure 18: BUKO WAAKT portable security camera mast installation – close up





Figure 19: Mysterious device made by a company called “Nedis”

Internet when we are standing on the square. One of the webcams is on the Martini Tower landmark, but we could not find it just by looking at the tower. Here is the live stream. I could photograph a nice directional antenna that is on the same tower, though.



Figure 20: Directional antenna on the Martini Tower

### **Siqura 900 series securit camera on a municipal building**

Most of the cameras marked on the open data municipal sensor register (mentioned above) looked like this one. We could not find out much more about it during the walk, other than that it is obviously a dome antenna that can look around. Later I looked at the photos and saw the company name Siqura on the cover, which nobody noticed at the time.

Siqura is a Dutch security company based in Guoda that was acquired by TKH Security in 2012. This information comes from a company database called Pitch Book and a press release. Since the acquisition in 2012, there are no new security cameras sold that are branded Siqura, which means that these cameras are quite old, even though they look super new on the photos!



The manufacturer quickly switched to pressurised dome covers for their outdoor cameras. These 900 series models do not look very sturdy or weather-resistant. The manual has a lot of information about them, including screen shots of the software that is used to look at the camera feeds!

### **License plate recognition camera at the entrance of the city**

The municipal open data sensor database also showed “license plate recognition cameras”. We were wondering how they keep them from being used for more purposes! These are positioned after the bridges across the canal that surrounds the city centre, and look on the road that leads into the city centre , away from the bridge. Luckily, we found a big traffic sign discussing the zero emission zone, so they must be linked to enforcement related to the zero emission zone. I recalled that the city of Groningen brands itself as the “bike city”. Unfortunately, we forgot to take a photo of the traffic sign.

### **Invisible cameras**

In the same municipal sensor map there were also cameras for “traffic control” around the canal, but we could not see them anywhere. A participant suggested that “traffic control” might refer to boat traffic on the canal in this context, in which case the camera would be on the bottom of the bridge. We could not find out more and this was the end of the walk.



Figure 21: BUKO WAAKT





Figure 22: Neddis





Figure 23: Another photo





Figure 24: Licence plate recognition camera for the low emission zone – context



Figure 25: Licence plate recognition camera for the low emission zone — close up





Figure 26: Licence plate recognition camera for the low emission zone – this is where the camera is looking