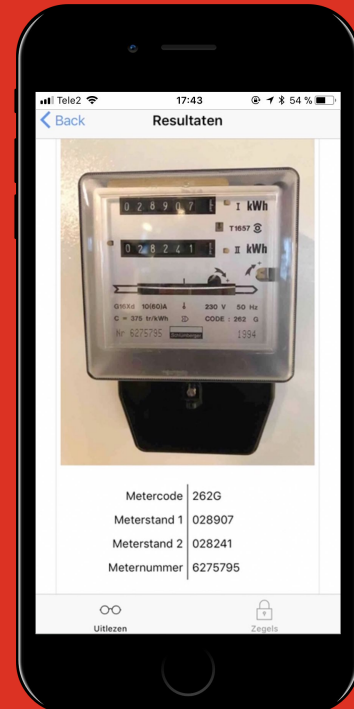

Clockworks Meter Assistant



>25M

readings

Even with 'smart meters' on the rise, over 25 million manual meters readings are performed each year in The Netherlands alone on gas-, electricity- and water meters.

>5%

human error

Manual administration of meter readings is time consuming and prone to human error.

25%

**of time spent on
administration**

Trained mechanics spend 25% of the time spent on changing a meter on administration of visual information (readings, serial numbers, types, etc.)

Clockworks Meter Assistant

WHAT

A deep-learning based integrated software solution for automatic administration of analog sensors and meters from a photo

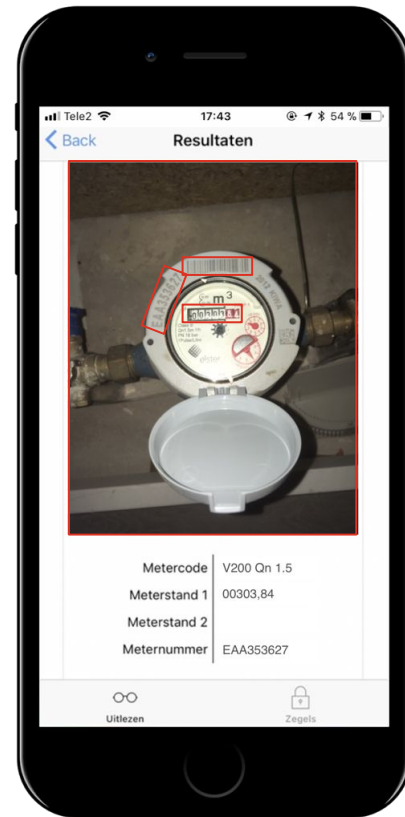
WHY

'Manual' administration of analog sensors and meters is time-consuming and sensitive to human error

HOW

State-of-the-art A.I. and computer vision technology allows for:

1. high user-friendliness
2. high performance
3. under complex and challenging circumstances



Reading

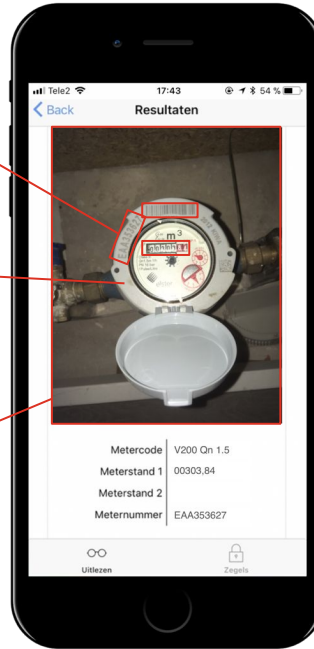
meter reading
serial number
barcode
year of manufacturing

Detection

metertype
brand
model

Metadata

GPS-location
time of acquisition
camera settings



superhuman accuracy



<0.5s processing time



insensitive for rotation and camera position



operates even under low-light conditions or
using camera flash



operates even on low-resolution images
(<1MP)



Clockwork Data Innovation B.V.
Stationplein 45, 44 094 (XX)
3013 AP, Rotterdam, The Netherlands
www.clockworkr.com



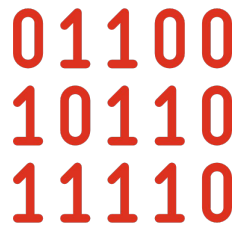
clockworkr

AI automated meter reading



Customer satisfaction

- easier process for consumers
- reduction in complaints and customer service requests
- additional services through recurring readouts



Data quality & quantity

- higher accuracy
- decreased risk of wrongly estimated meter reading
- 100% ground-truth availability in image



Cost reduction

- less planned inspections
- reduction of manual validation
- increased efficiency of mechanics

SaaS integration

service engineer / end-consumer

integration in work-process
software or on-line/app
environment



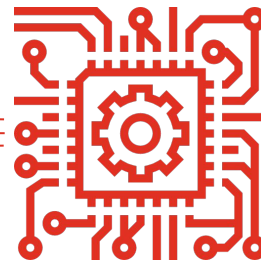
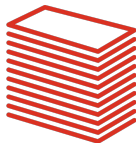
IoT camera devices

real-time monitoring using
streaming data from stationary
camera devices



batch processing

scheduled batch processing for
validation and other applications



Clockworks API

- cloud-based architecture
- real-time
- scalable

Examples

categorie: **watermeter**
merk: **onbekend**
type: **onbekend**

GPS: **onbekend**

datum: **onbekend**
tijd: **onbekend**



meternummer:
61073833

meterstand:
00386,405

categorie: **elektriciteitsmeter**
merk: **onbekend**
type: **264U**

GPS: **onbekend**

datum: **onbekend**
tijd: **onbekend**



meterstand 1:
014404

meterstand 2:
015031

meternummer:
73877633

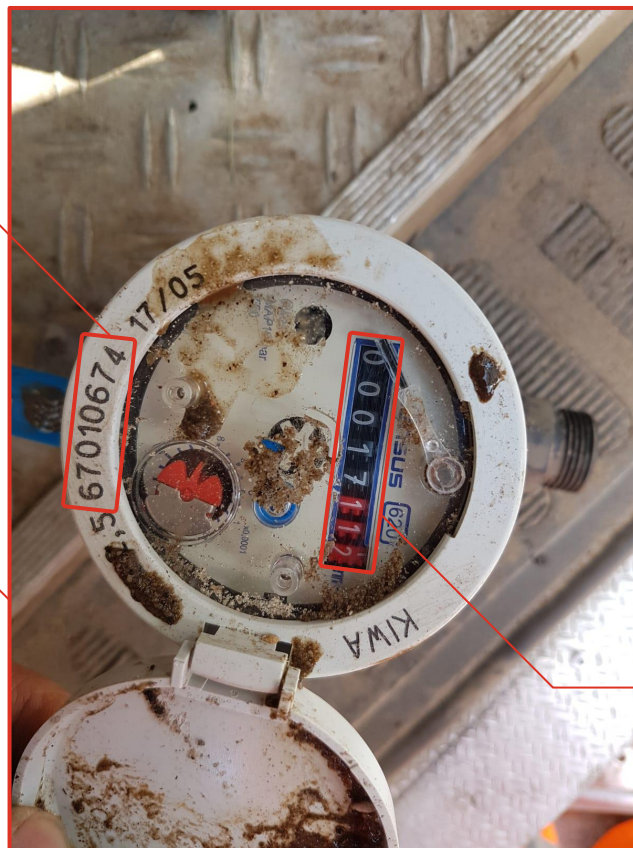
barcode:
264U0073677633

meternummer:
67010674

categorie: **watermeter**
merk: **onbekend**
type: **onbekend**

GPS: **onbekend**

datum: **onbekend**
tijd: **onbekend**



meterstand:
00017,112

categorie: **watermeter**
merk: **Elster**
type: **V200 Q3 2,5m3/h**

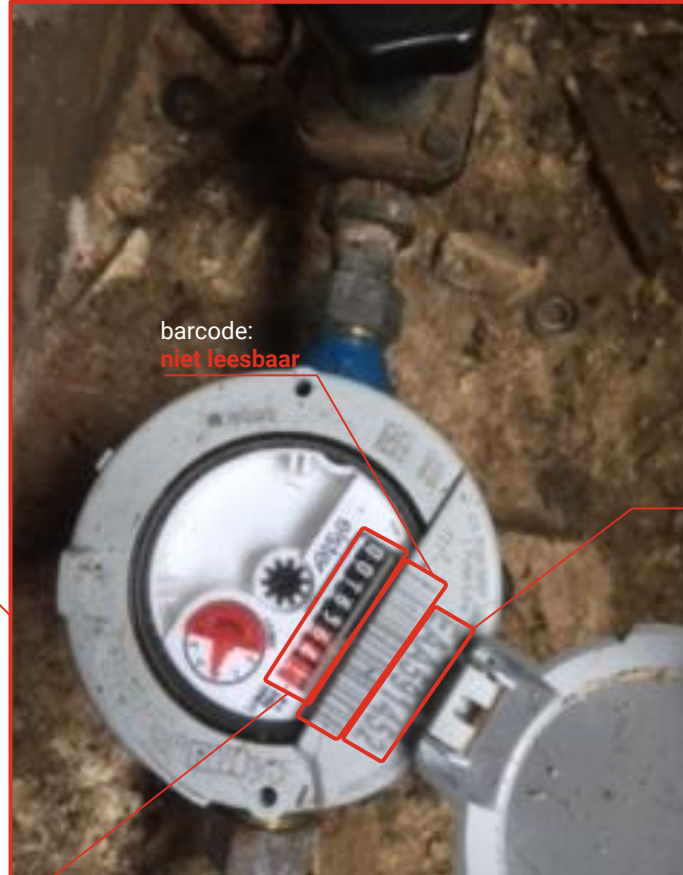
GPS: **51°35'xx"N 4°55'xx"E**
(Rijen)

datum: **2017-08-21**
tijd: **14:24:37**

barcode:
niet leesbaar

meternummer:
EAA591452

meterstand:
00165,641



meternummer:
0020963266

categorie: **gasmeter**
merk: **onbekend**
type: **21042**

GPS: **onbekend**

datum: **onbekend**
tijd: **onbekend**

meterstand:
07640,612

barcode:
21042002096326605

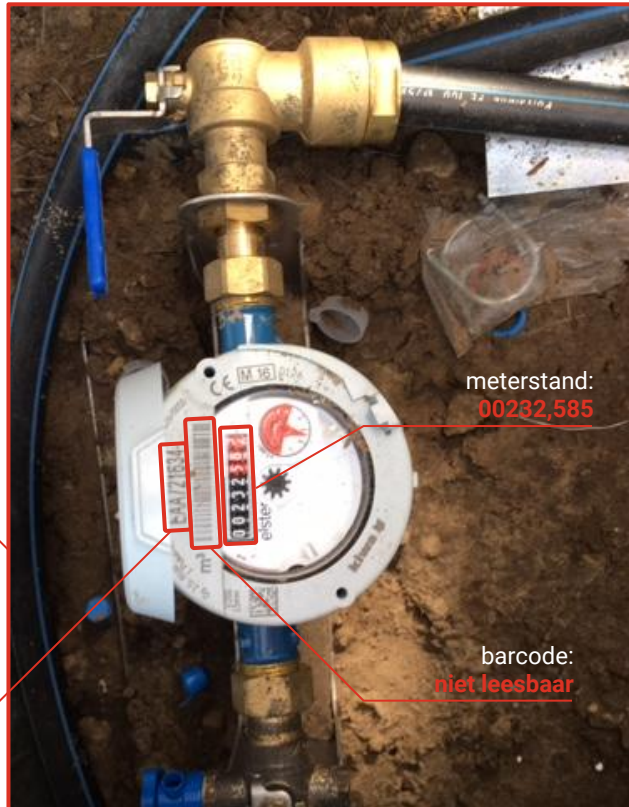


categorie: **watermeter**
merk: **Elster**
type: **V200 Q3 2,5m3/h**

GPS: **51°29'xx"N 4°18'xx"E**
(Bergen op Zoom)

datum: **2017-08-23**
tijd: **12:22:55**

meternummer:
EAA721634



meterstand:
00232,585

barcode:
niet leesbaar

Contact

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