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Using Cameras as the in IoT

What is IoT?

IoT means different things to different people.

Google says that: “The Internet of Things (IoT) describes the network of physical objects—“things”—that are embedded with sensors, software, and other technologies for the purpose of connecting and exchanging data with other devices and systems over the internet.”

If IoT devices are the eyes and ears for increasingly interconnected systems, then analytics technology is the brain.

WHY TALK ABOUT IOT NOW?

Cost of Sensors	Cost of Bandwidth	Cost of Processing	Cost of Cloud Storage	Cost of Connectivity
/ 2x	/ 40x	/ 60x	/ 17x	/ 10x

THE GOOD NEWS:

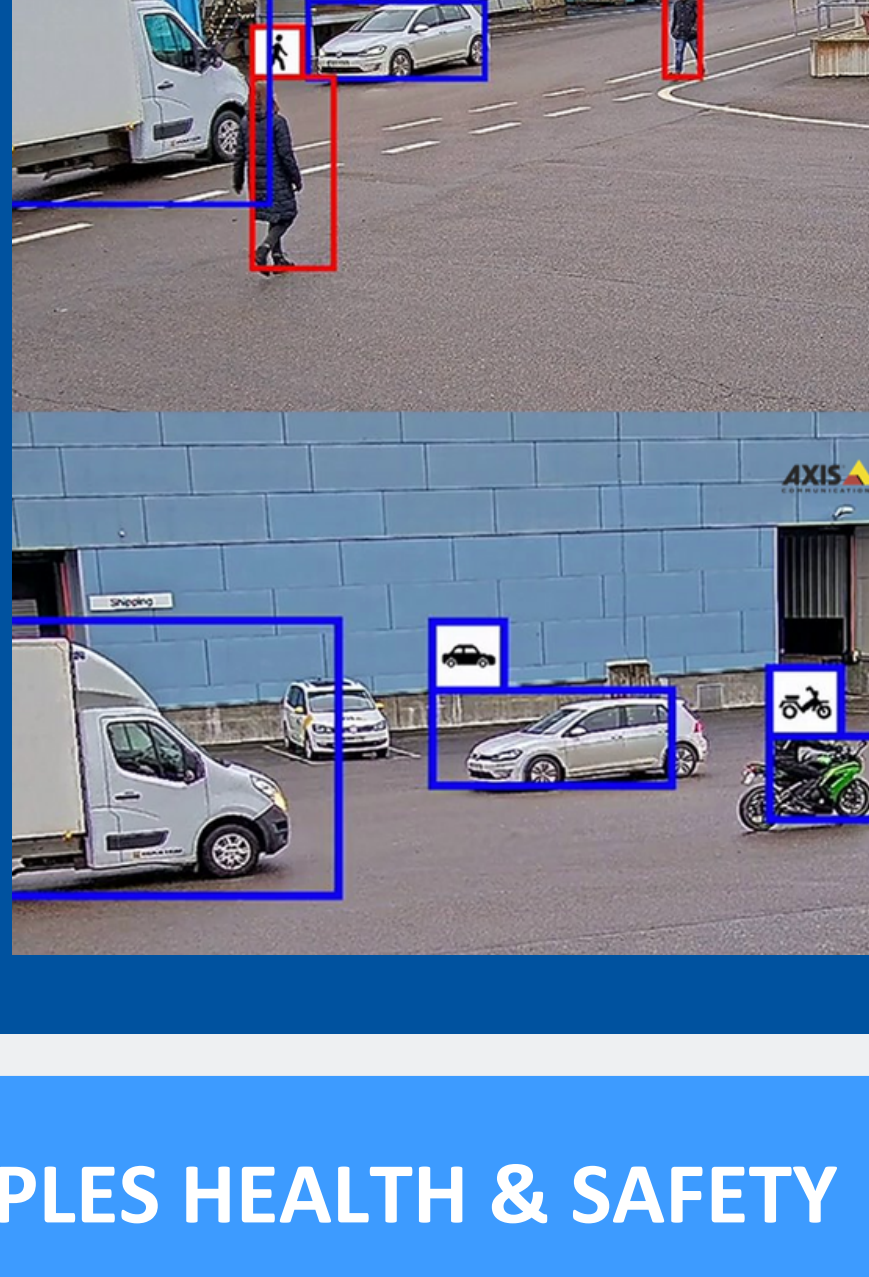
99%
of things in the world are still not connected

CAMERAS AS THE

How can Cameras be IoT Sensors?

- Detect – motion, patterns, heat
- Classify – people, vehicles, animals
- Count and Measure

IoT is all about Data!



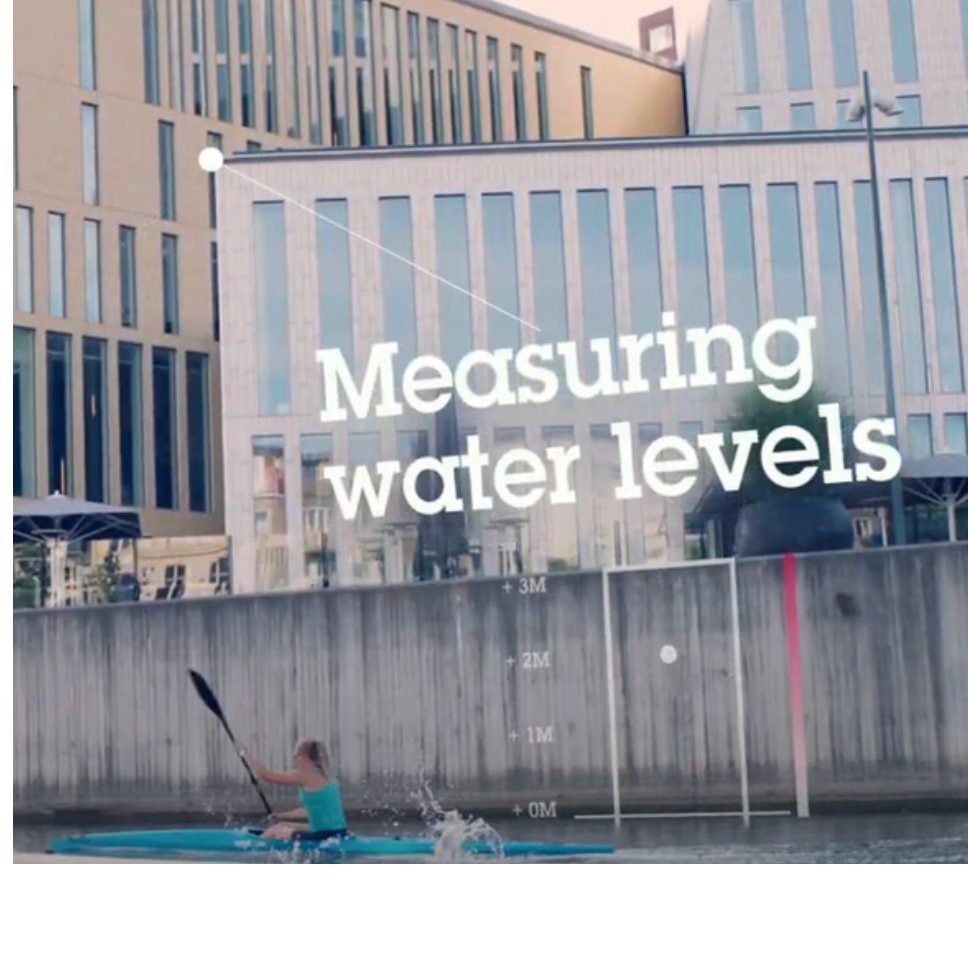
IOT EXAMPLES HEALTH & SAFETY



AI / Analytic Measurement:

- Hard hat detection
- Hi-Viz detection
- Man-down

IOT EXAMPLES ENVIRONMENTAL

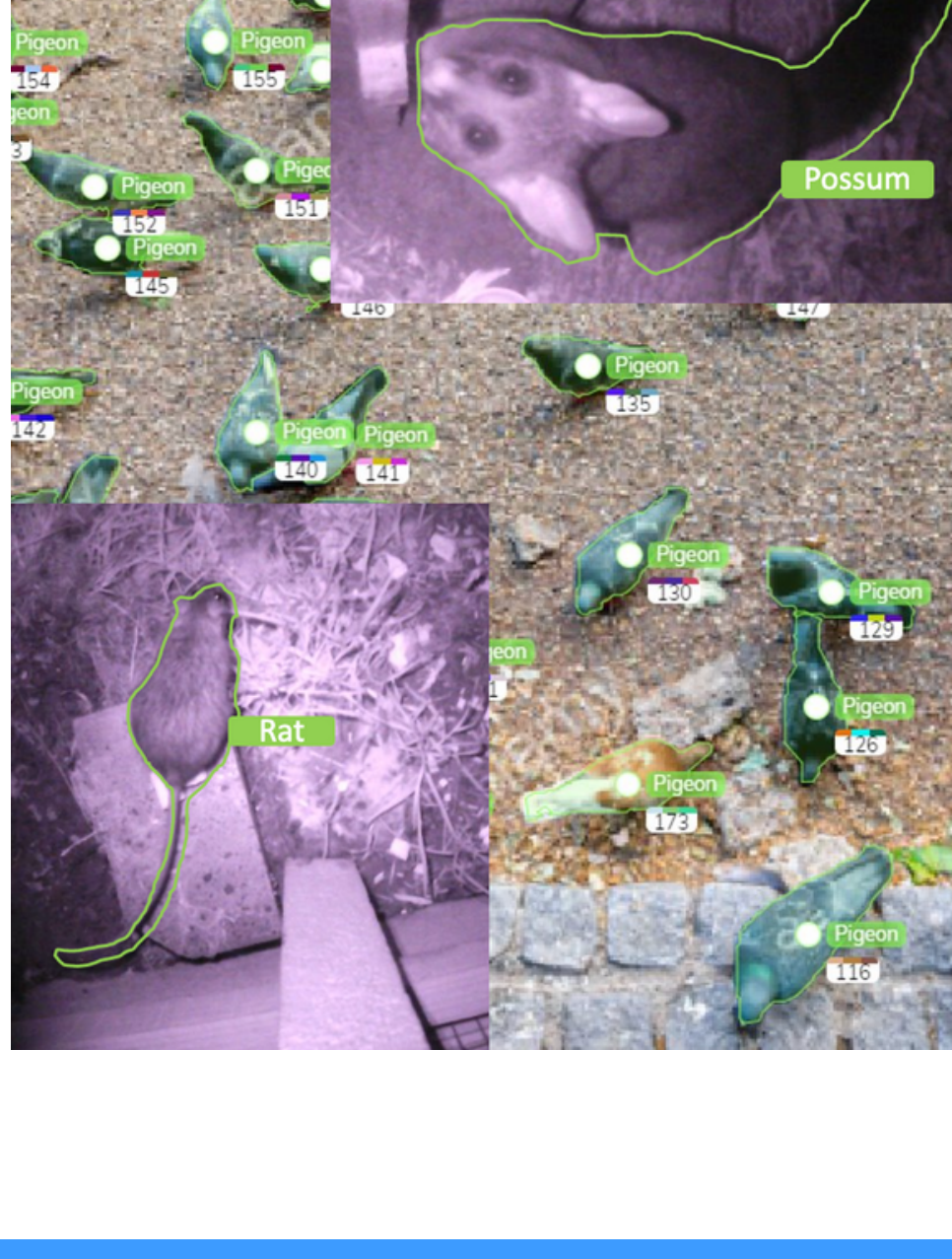


AI / Analytic Measurement:

- 24/7 Monitoring of water flow
- Edge algorithm measures water level and calculates flow

AI / Analytic Measurement:

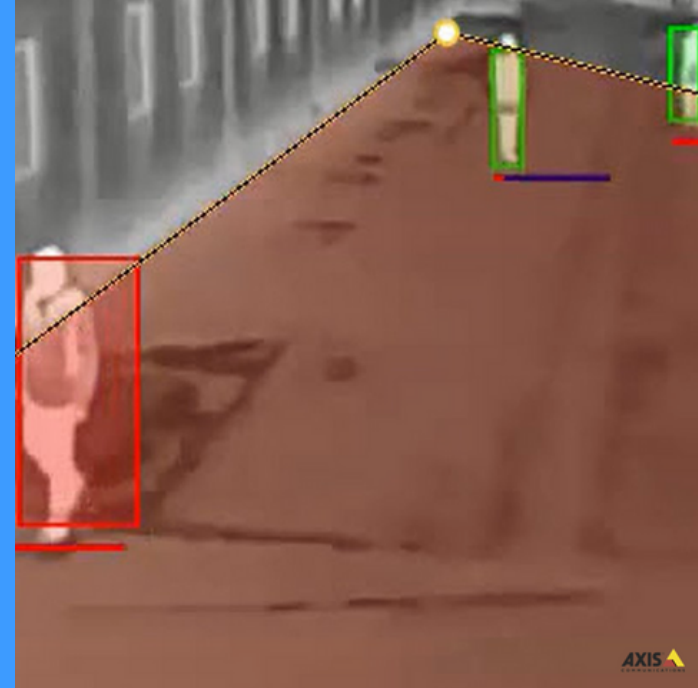
- Detect specific species
- Control External Devices
- Count



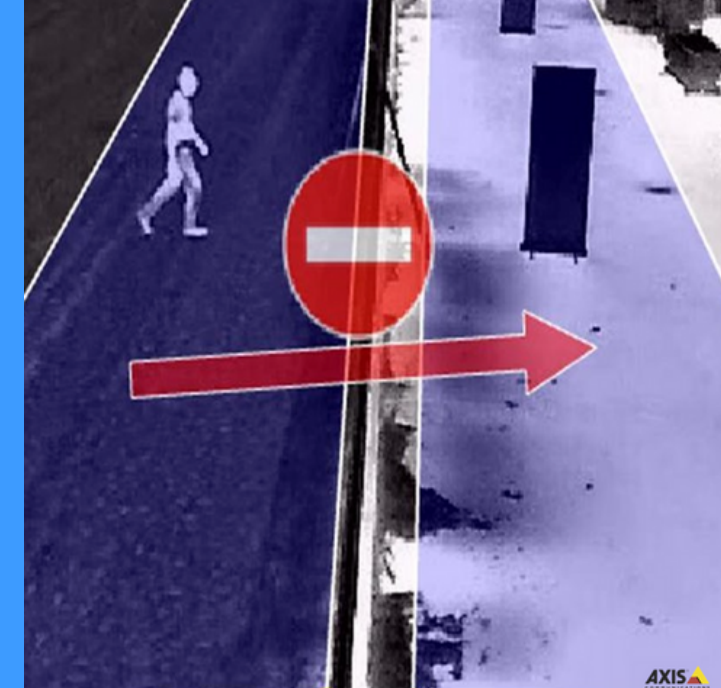
IOT EXAMPLES SECURITY

Thermal or Visual

- Consider perspective
- Detect a “person” even when crawling, log-rolling
- Rules (even rules within rules)



LOITERING



PERIMETER PROTECTION

IOT EXAMPLES RETAIL



AI / Analytic Measurement:

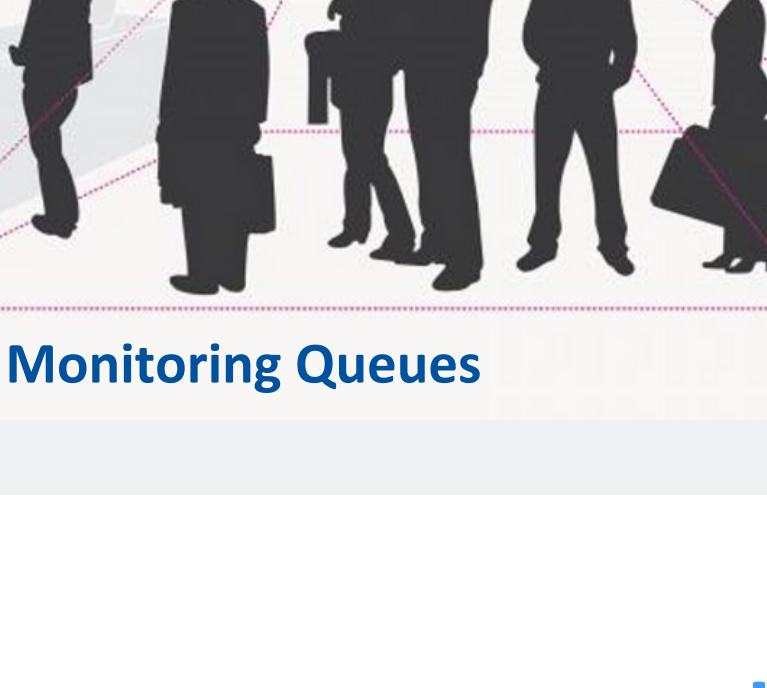
- Gender
- Age
- Emotion

AI / Analytic Measurement:

- People traffic – People in and out
- Occupancy



People Counting



Monitoring Queues

AI / Analytic Measurement:

- Number of people in a queue
- Average time inside a queue

Last Thoughts

- Using cameras as IoT sensors is an efficient way to get more out of existing infrastructure.
- AI and Edge Analytics very sensitive to the environment. No one-size-fit-all solution.
- Visibility – camera can only detect/analyse what the camera can “see”.
- Consider Data privacy and Cyber Security impacts.
- Next time you look at a CCTV camera – just think how it is looking with new eyes at you...