INTRA

Introduction computer vision for the industry.

We let computers see our world
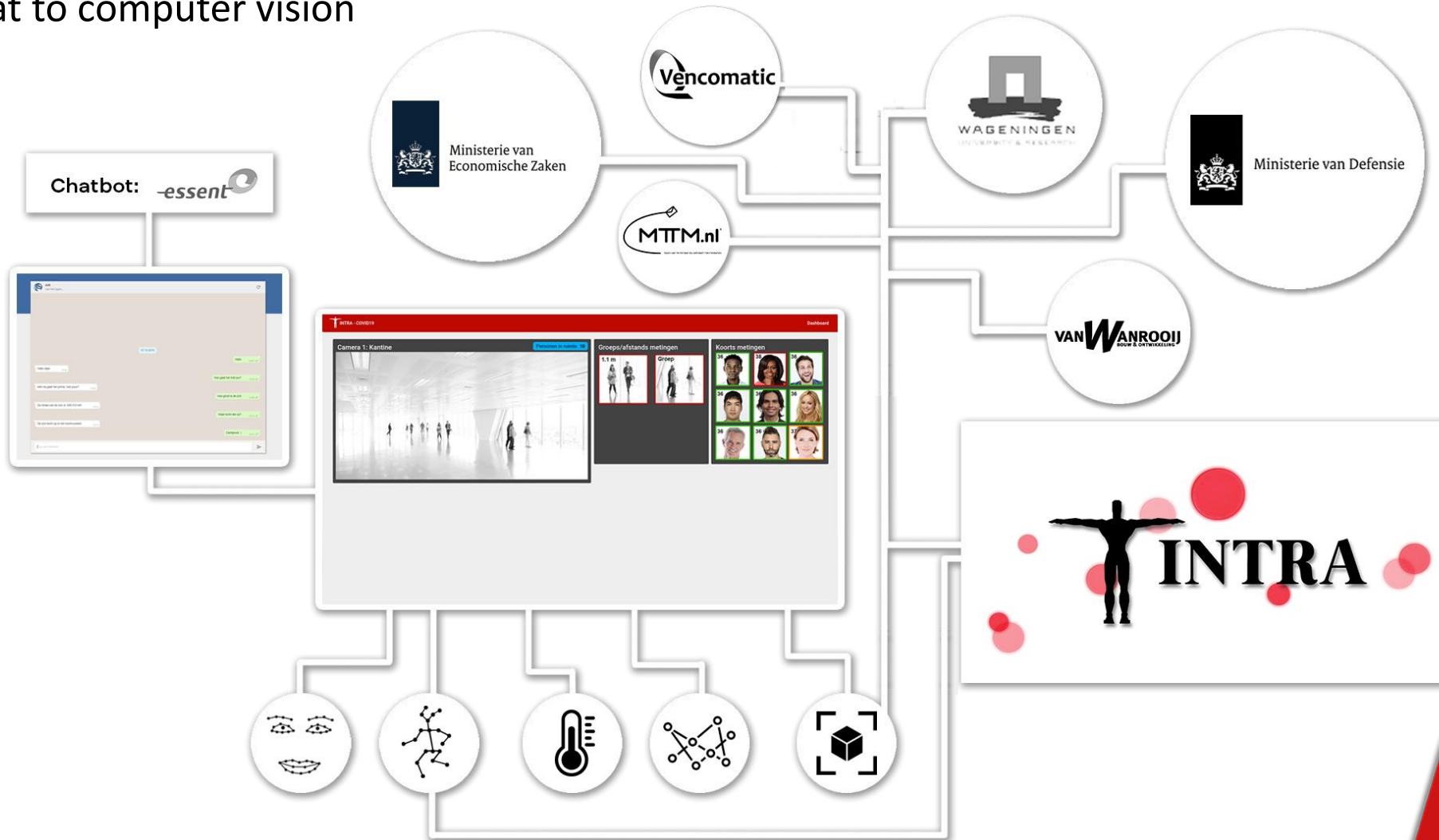
Centillien

About us

Centillien in a nutshell

- Specialist in Computer Vision and Artificial Intelligence.
- Because the world gets shape through images, information gathered from pictures has huge value.
- Intra is our software platform for Computer Vision which is strategic for us.
- The industry is an important market for us, we see a lot of applications there.

INTRA

What is computer vision and what is Intra

- Computer vision is image recognition with the use of Artificial Intelligence.
- Using that technology it is possible to recognize people, animals and things.
- You can relate things to the environment and even analyse (human) behavior.
- Computer vision applications have simalar characteristics
  - First step is a detection of what is interesting (product, human, etc..).
  - Determine the context or what needs to be analysed in relation to other objects
  - Taking a measurement like distance, time, temperature (not always)
  - Detection of abnormal circumstances
  - Take action (change band speed, warning or instruct a robot)
  - Improve the model by training till the optimum is reached.
- Intra is the platform developed by Centillien dat is created to stabilize these steps and speed up the development of new applications.

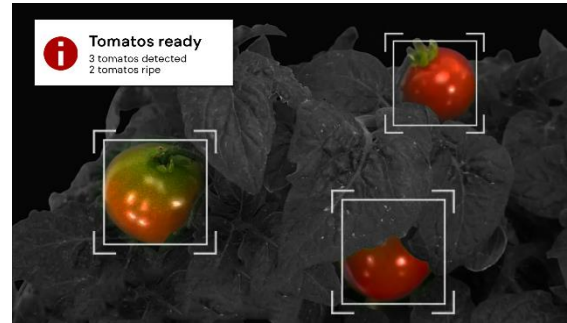# The origin of Intra

From chat to computer vision

Example videos Intra
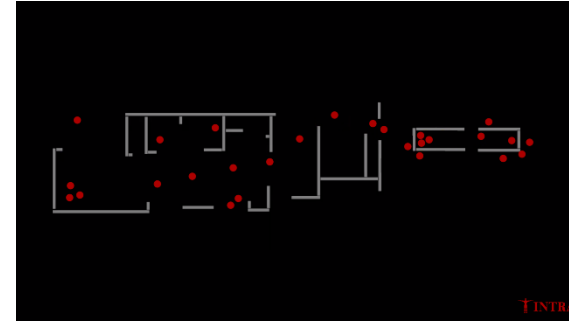
(click the tumbnails to watch the videos)

Catch thieves

Greenhouses

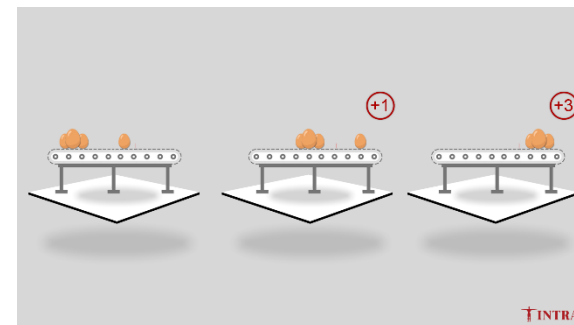**Track people anonymous**

Measure distance

Check Covid-19 compliance
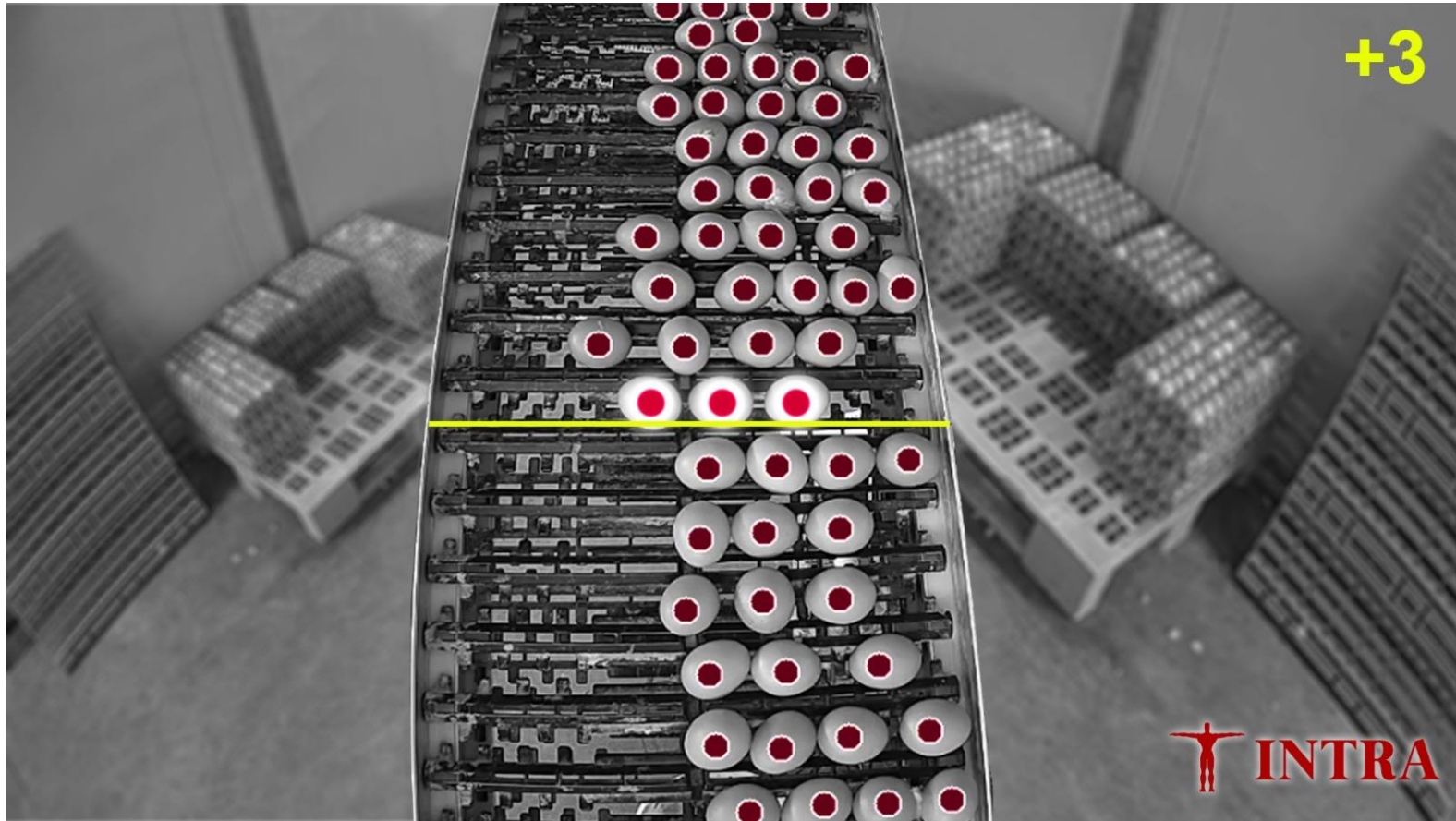
Count eggs

Applications in the industry (not exhaustive)

- Counting
- Counting products
- Quality control in very different circumstances and remove products
- Distance measurements
- Time measurements in relation to production process or disturbances
- Tracking and tracing
- Label recognition
- Detect dangerous situations like fire, hazardous equipment and people
- Check product sealing
- Packaging and assembly checks
- Temperature measurements.
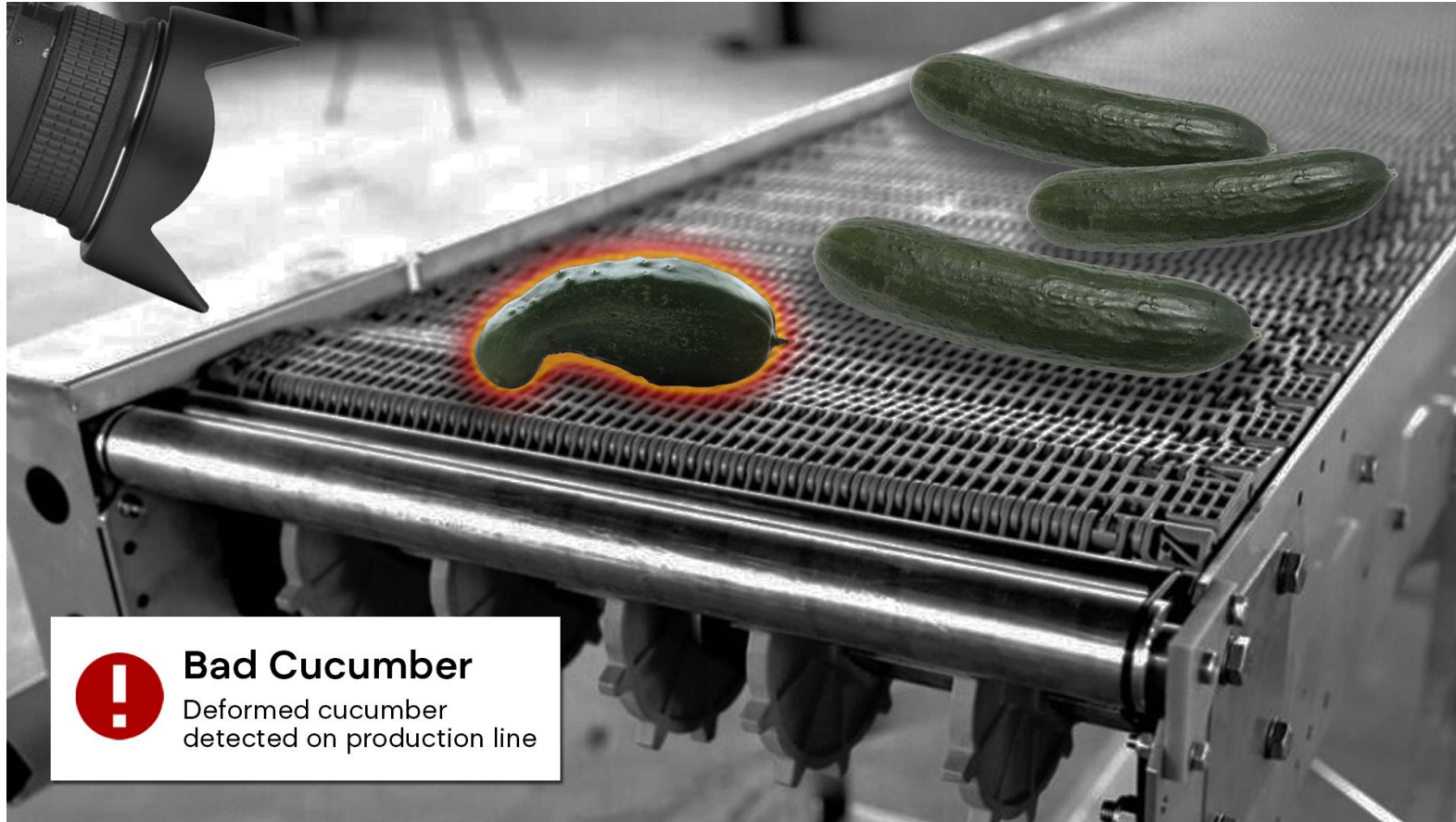- Use of UV or hyperspectral camera's for biological products or contamination.

Baking bread

Egg recognition and counting

Recognition malformed cucumbers

Bad Cucumber
Deformed cucumber detected on production line
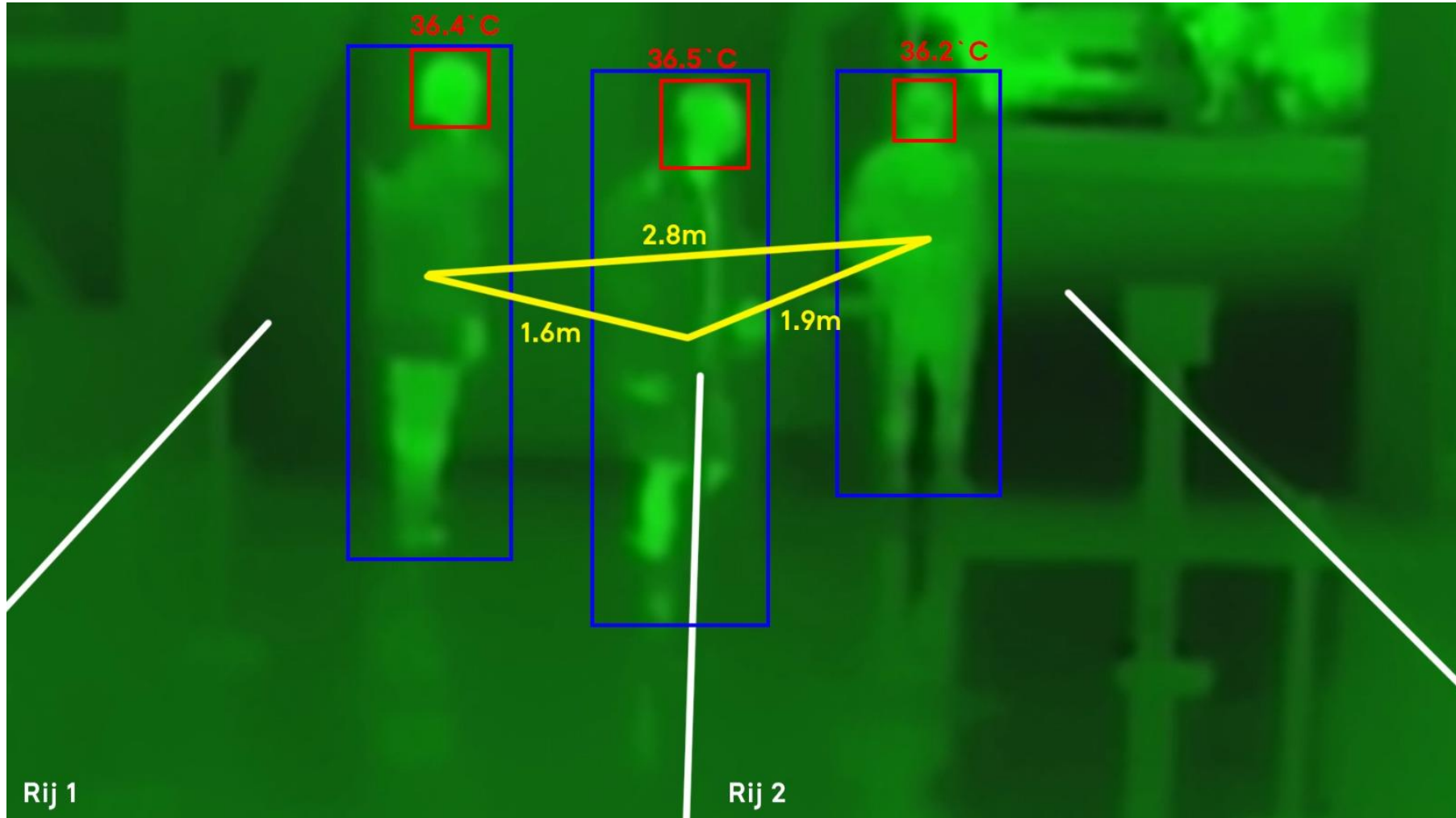
USP's

- With Intra we can speed up the introduction of new appliances with a stable platform.
- Not only detection of people, animals or things, but also behavior.
- The platform is faster to save cost on hardware.
- Multiple possible measurements.
- Scalable by the use of latest technology
- Modular, so easy to incorporate new application components.
- Proven use cases.

INTRA

Backup sheets

Some of our work

- Dutch Department of economic affairs. Measure compliancy to corona rules,
- Dutch department of Defence, predictive profiling. Recognize suspicious behavior
- Vencomatic, recognize and count eggs in industrial stables around the world.
- Univerity of Wageningen. Recognize animals for research of migration patterns
- Van Wanrooij, predict housing prices on street level (nationwide)
- Essent Belgium, chatbot with emotion detection.

INTRA

Example of anonymous people recognition
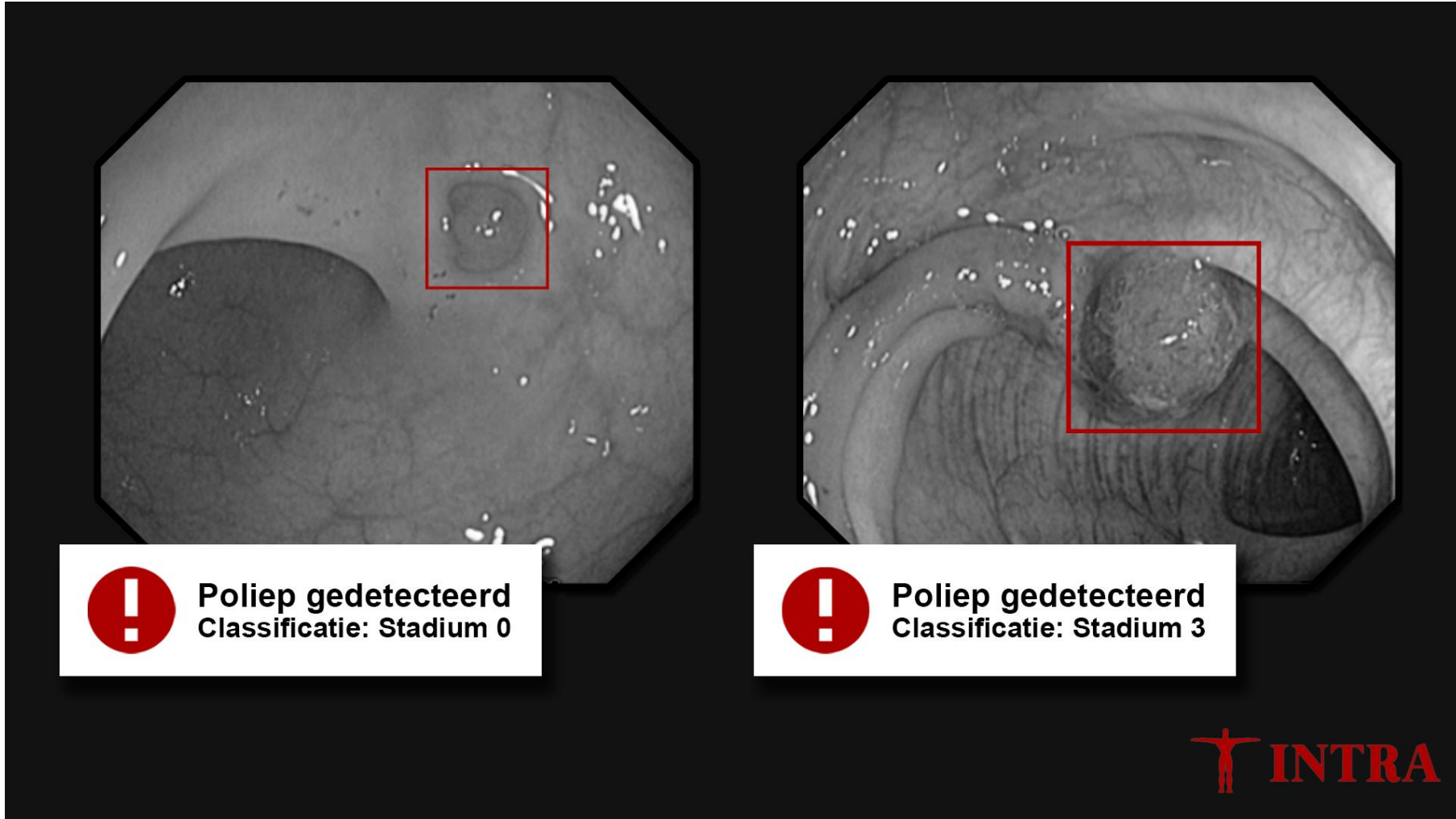
Detect plant damage
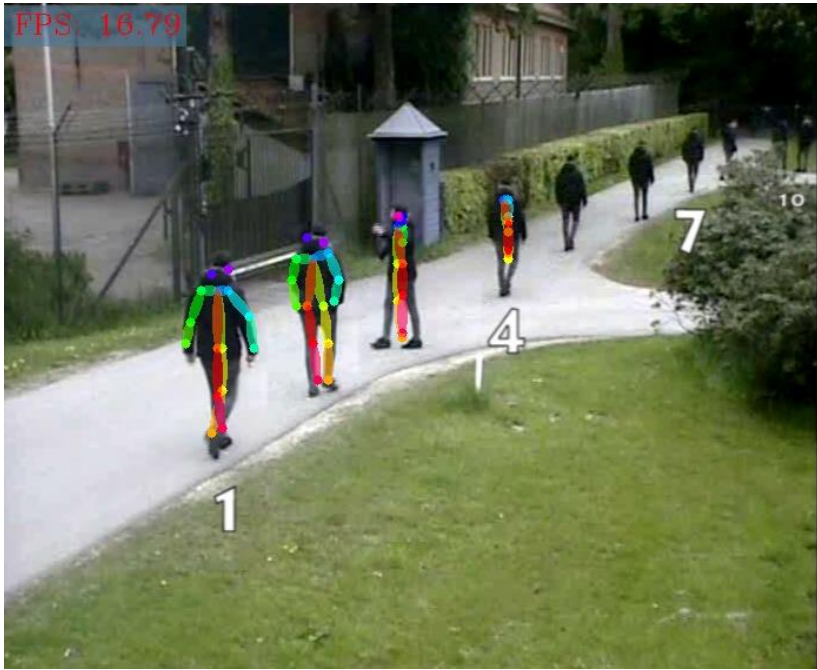
Recognize and count animals by night

Conclusie:
'dutch_name': 'Witstaarthert'
'scientific_name': 'Odocoileus virginianus'
'animal_count': 2

Recognize polyp

Behavior analyses limbs vs posture

Remark: Using limbs to recognize behavior is more reliable on short distance, but by posture it is also possible with greater distance