Introduction of computer vision

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.
- Government, healthcare and the industry are important markets for us, with a lot of applications.

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 analyze (human) behavior.
- Computer vision applications have similar characteristics
  - First step is a detection of what is interesting (object, human, etc..).
  - Determine the context or what needs to be analyzed 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 that is created to stabilize these steps and speed up the development of new applications.

Strategy

- Our vision is that AI will have huge impact on our society and economy. Computer Vision is in an early stage but has proven to create value.
- Intra is our strategic platform for computer vision.
- Intra is deliberately build as a platform to be able to reuse components.
- Intra is therefore applicable in multiple branches with different applications
- Components are trained models, trainable models, measurements, relations and actions.
- With Intra it is faster and cheaper to build new customers applications
- Our platform is technical superior and is scalable. Further scaling is being developed.
- We see these branches as strategically interesting

INTRA

Gartner's view on Computer Vision

Business Impact

Data is viewed as potentially one of the most important and unique strategic business assets that organizations control. Gartner estimates around 80% of these dark data assets — including uneventful surveillance video, video meetings and unsearchable text and graphics — are composed of image or video data which typically gets discarded because it has no apparent value. Key use cases today include the use of advanced analytics for video surveillance automation, health and safety compliance (PPE detection, COVID-19 mitigation, etc.), visual search, shopper and shelf analysis, automotive applications, OCR and quality assurance/production line automation in manufacturing. Increasingly, in the future. **Organizations that are unable to value and leverage their computer vision assets strategically will become uncompetitive**.
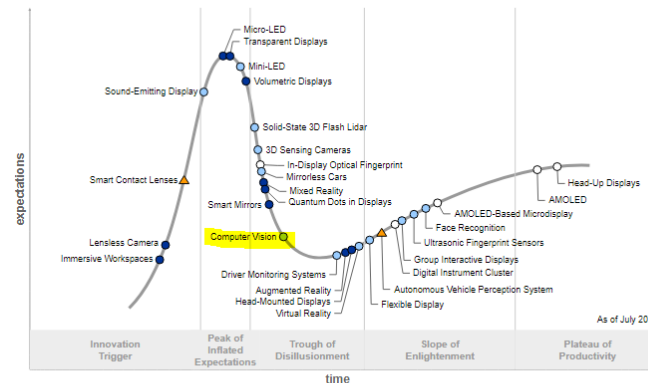
Benefit Rating

High

Market Penetration

5% to 20% of target audience

Maturity

Adolescent

The origin of Intra
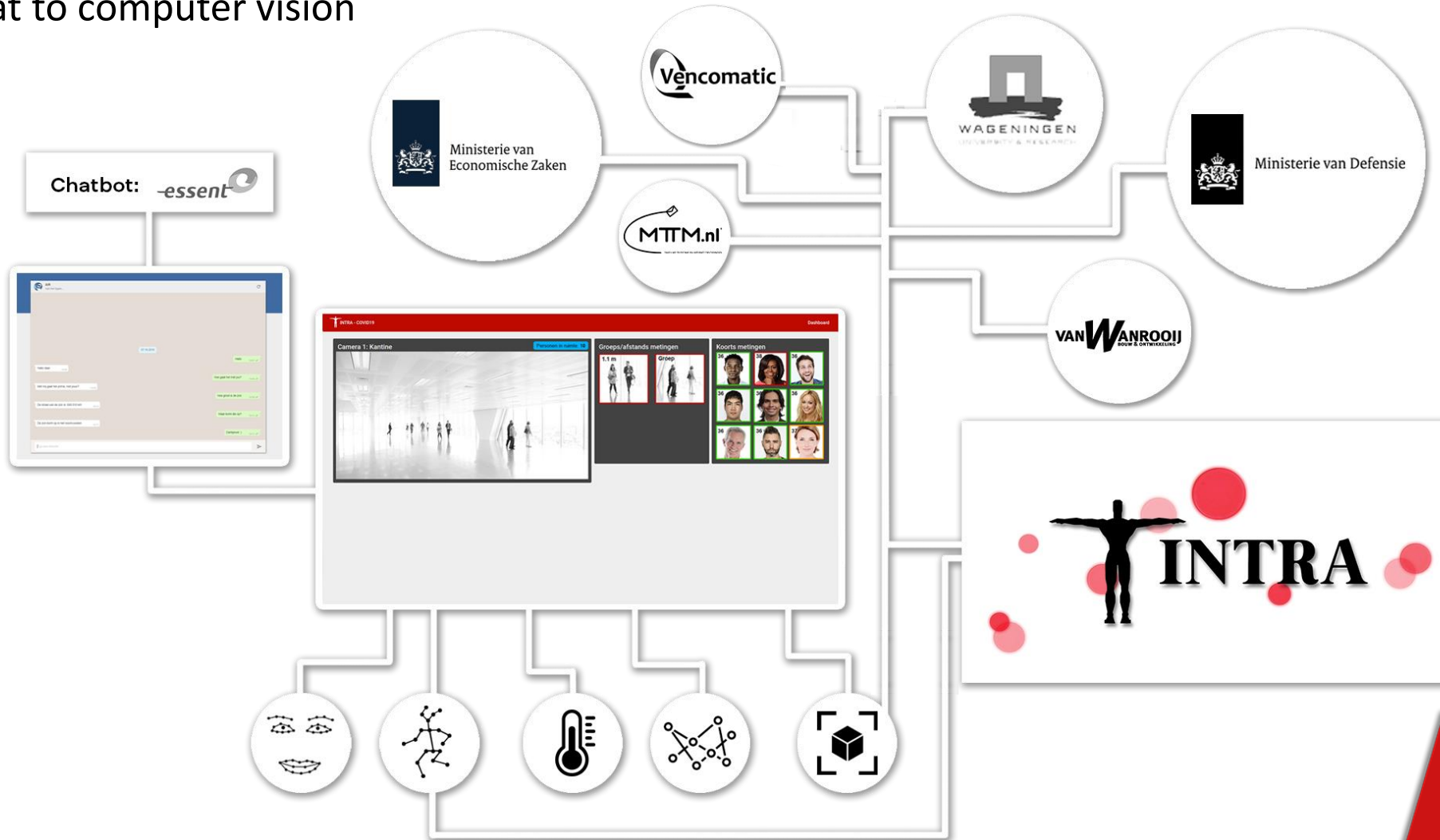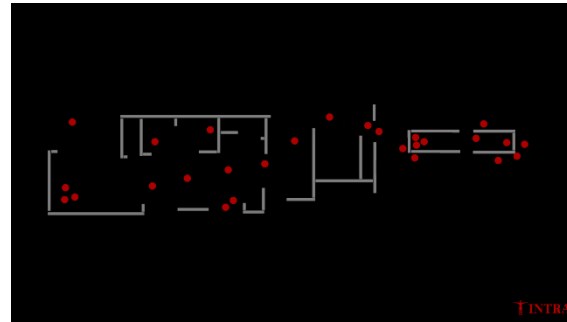
From chat to computer vision

Example videos Intra

(click the tumbnails to watch the videos)

Catch thieves
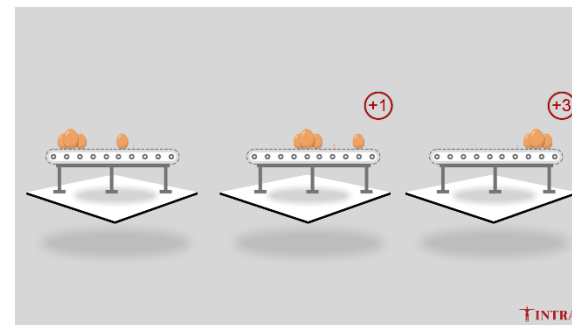

Track people anonymous

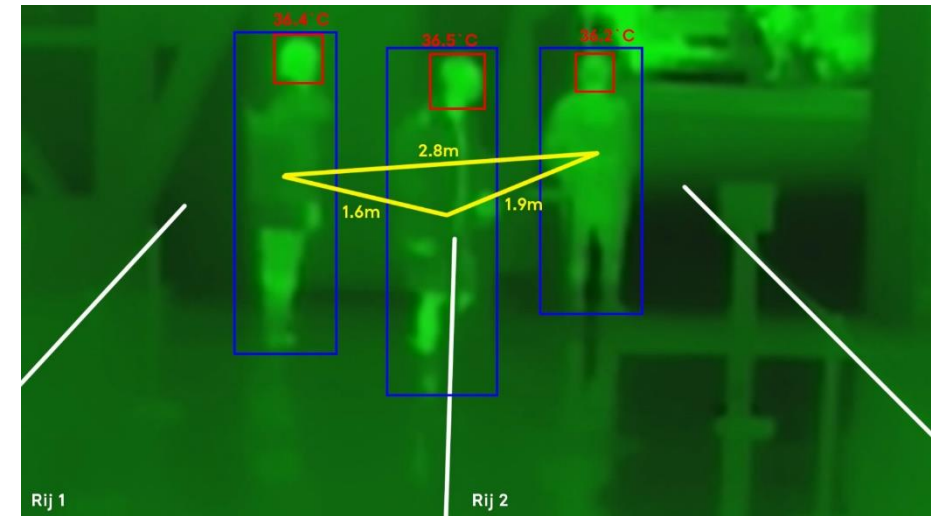Check Covid-19 compliance

Measure distance

Greenhouses

Staat: Groeiend

Count eggs

INTRA

Application for behavior or government

- Covid-19 measurements
- Predictive profiling (Suspicious behavior)
- Analyzing buying decisions
- Sport and recreation
- Left luggage
- Ram raids at ATMs
- Autonomous vehicles (Defense/agriculture)
- Animal behavior

Important: Intra is able to monitor anonymously. This is required in Europe by law (GDPR)

Applications for healthcare

- Mental health
  - Intensive night care with violent or confused clients
  - Recognition of apathetic behavior
  - Recognition of epileptic seizures
- Elderly care
  - Falling out of bed
  - Falling asleep / Forgetting to go to bed
  - Taking medication
- Extramural or home care
  - Detection of dangerous situations
  - Fainting, choking, strokes
- Diagnostics
  - Recognize patterns using CAT / MRI / X-ray / Ultrasound
- Covid-19 prevention
- General: Anonymous behavioral analysis to gain insight into activity, aggression, avoidance of danger.

Melding kamer 206
Client is uit zijn/haar bed gevallen

Applications in the industry

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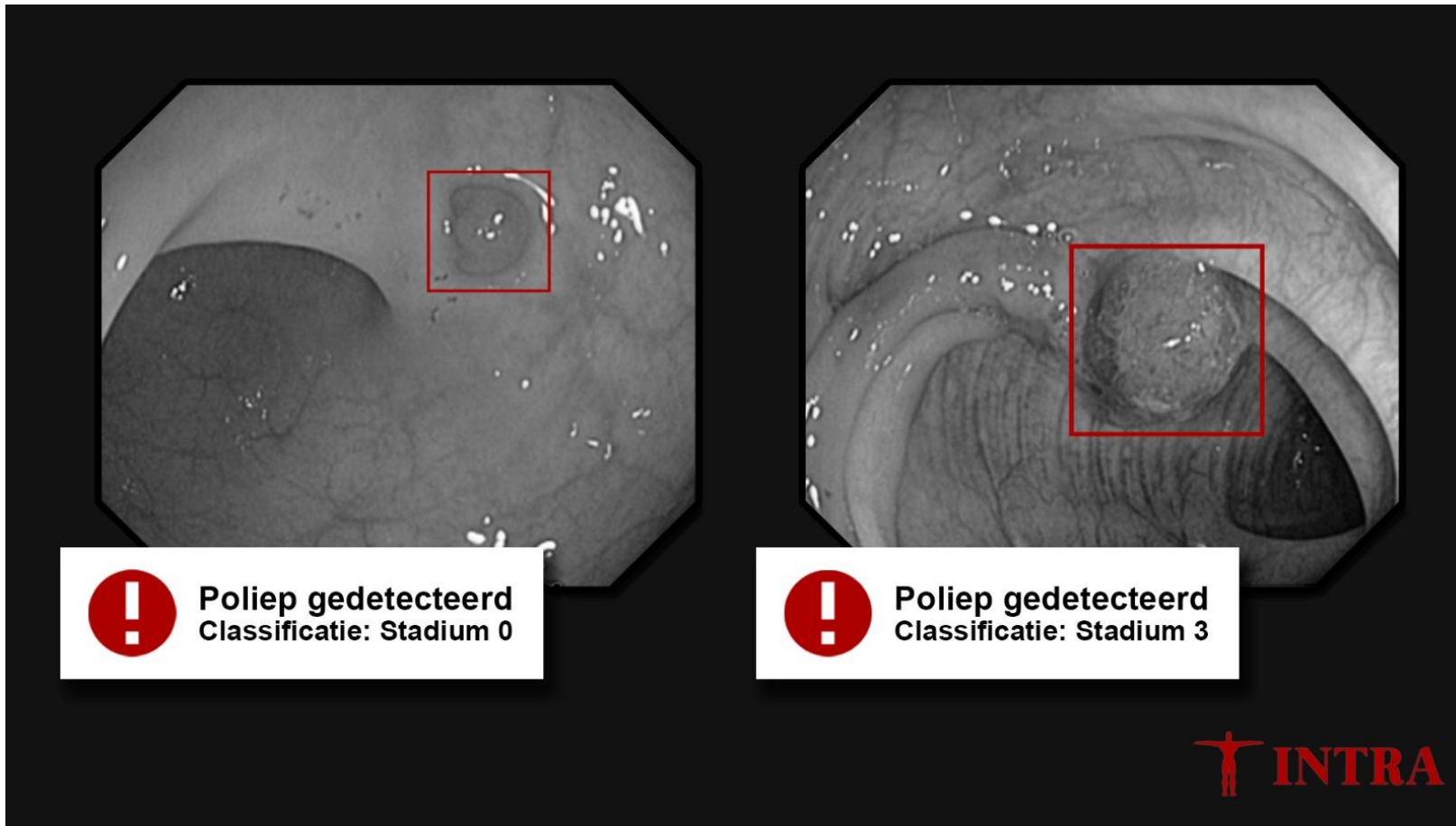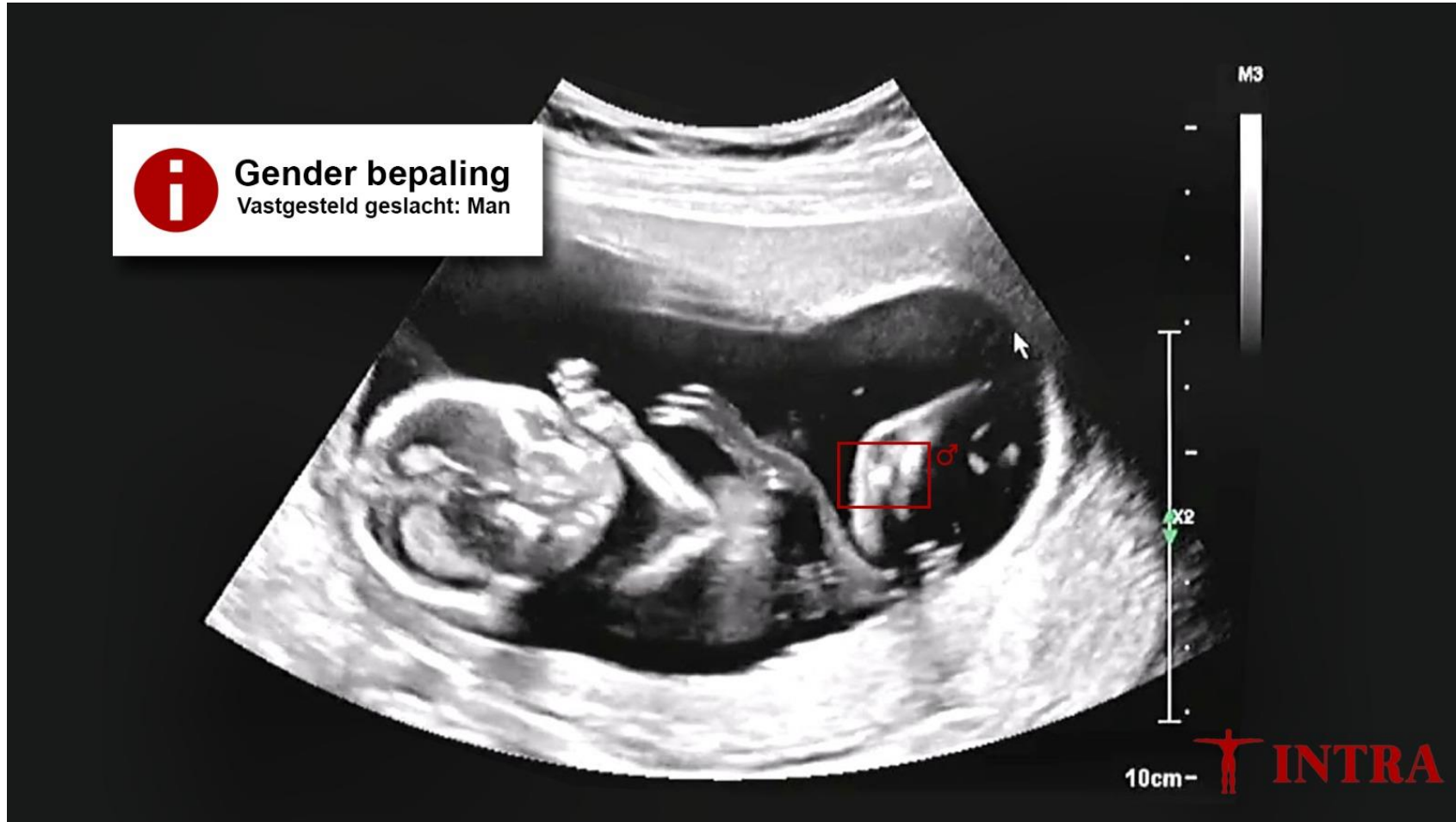- Check product sealing
- Packaging and assembly checks
- Temperature measurements.

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.
- Multiple possible measurements.
- Scalable by the use of latest technology
- Modular, so easy to incorporate new application components.
- Proven use cases.
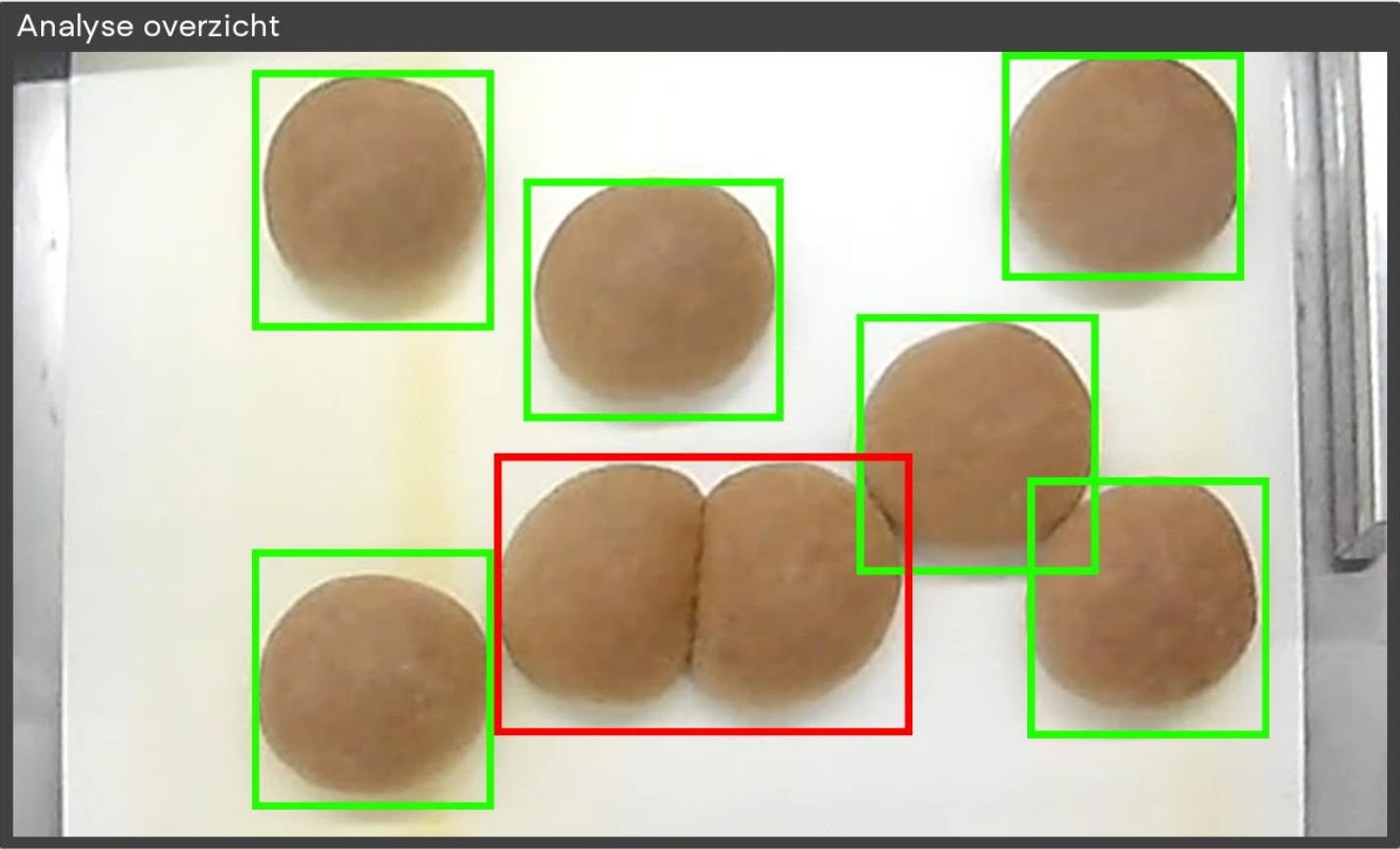
INTRA

Backup sheets

Tissue recognition

Ultrasound

Baking bread

Detect plant damage

Recognize and count animals by night

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

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

INTRA