



Visual AI for buildings  
PEKIVE workshop 2

Converting a building into being **smart on energy...**

**Annual savings**  
**~15€/m<sup>2</sup>**

in smart buildings from application of occupancy sensing in building management software.



## HEATING & COOLING

Heating/cooling of unused office space can be avoided.



## VENTILATION

Air quality matters to worker productivity and well-being.



## LIGHTING

No reason to light up vacated workspaces.



Head detector:

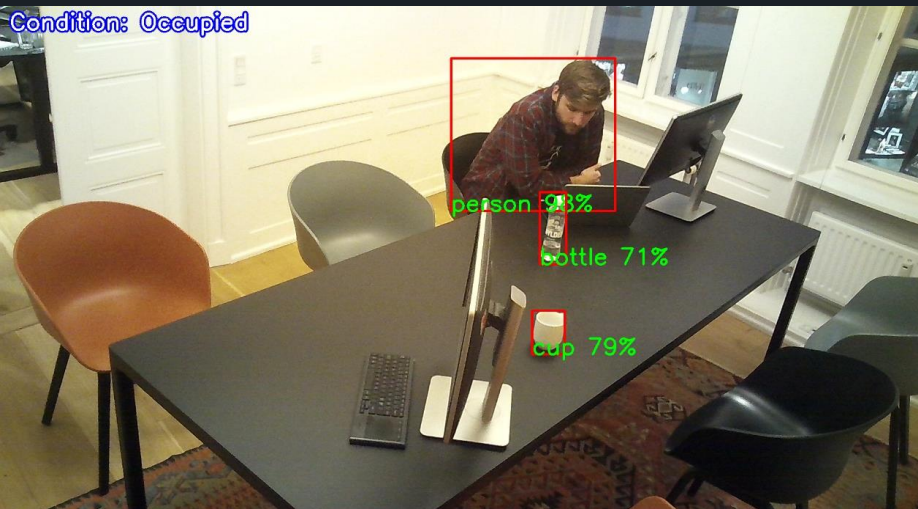
CNN network trained  
to detect heads from  
all angles





# Beach toweling - classifier approach

Condition: Occupied



Condition: Beach towel

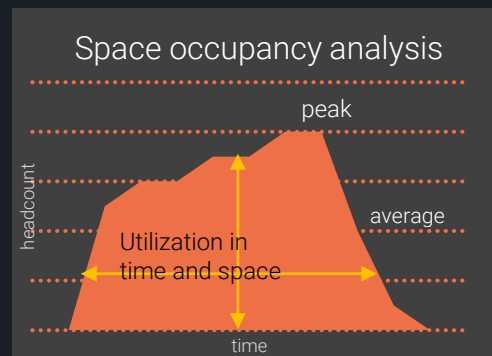


## IMPROVE YOUR FACILITIES

# Smarter Data Insight

### OCCUPANCY DATA ANALYSIS

- Office workdesk utilisation
- Utilisation of meeting rooms
- Utilisation of communal spaces
- Presence in % of time during working hours
- Utilisation in % of space during working hours



# Feeding building AI with data

- AI algorithms are notoriously data hungry
- The more (quality) data the better algorithms, the higher the potential for building optimization
- Visual AI input such as provided by our sensors adds data about what really matters: people!
- AI can optimize operations and save energy based on vast amounts of complex multi-source data rather than experience and gut feelings