

NAUTICAL-NEXUS



CrewCare

05/06/2024

Product Overview

What is “CrewCare”?

CrewCare aims to improve the maritime safety and wellbeing by analyzing the behavior of the crew and the data obtained from equipment (AIS, radar, GPS/INS,...)



Product Overview

We're the guardians of our people

That shipping companies need, providing insights that allow them to optimize their team and maximize performance.

Think Moneyball for the maritime industry.

Our data-driven approach ensures that you have the best team possible, based on the latest data and analysis.

Join us in transforming the maritime industry with the power of AI - welcome to Nautical-Nexus.



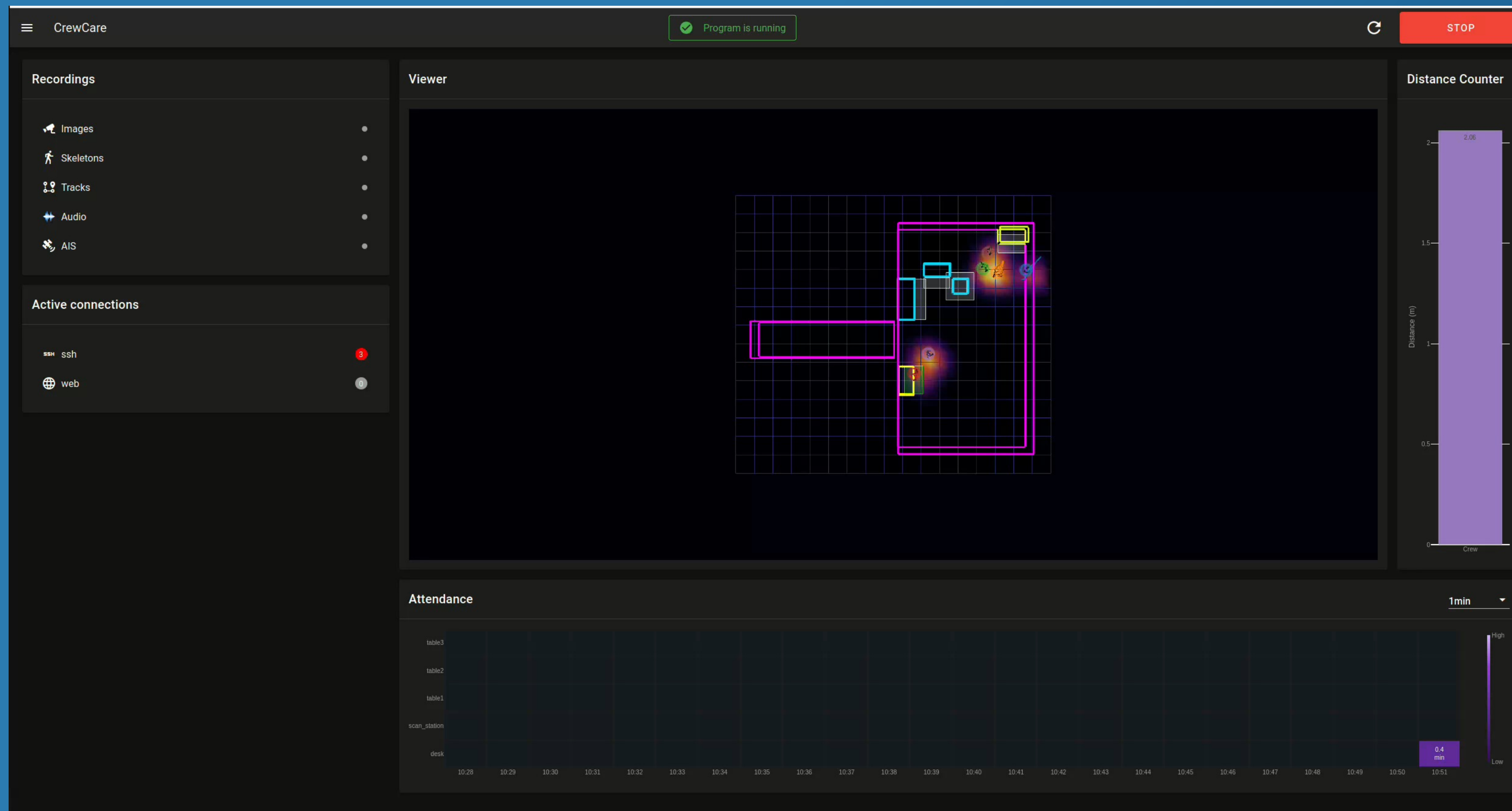
Installation of security cameras





Product Overview

Recording & Dashboard




Product Overview

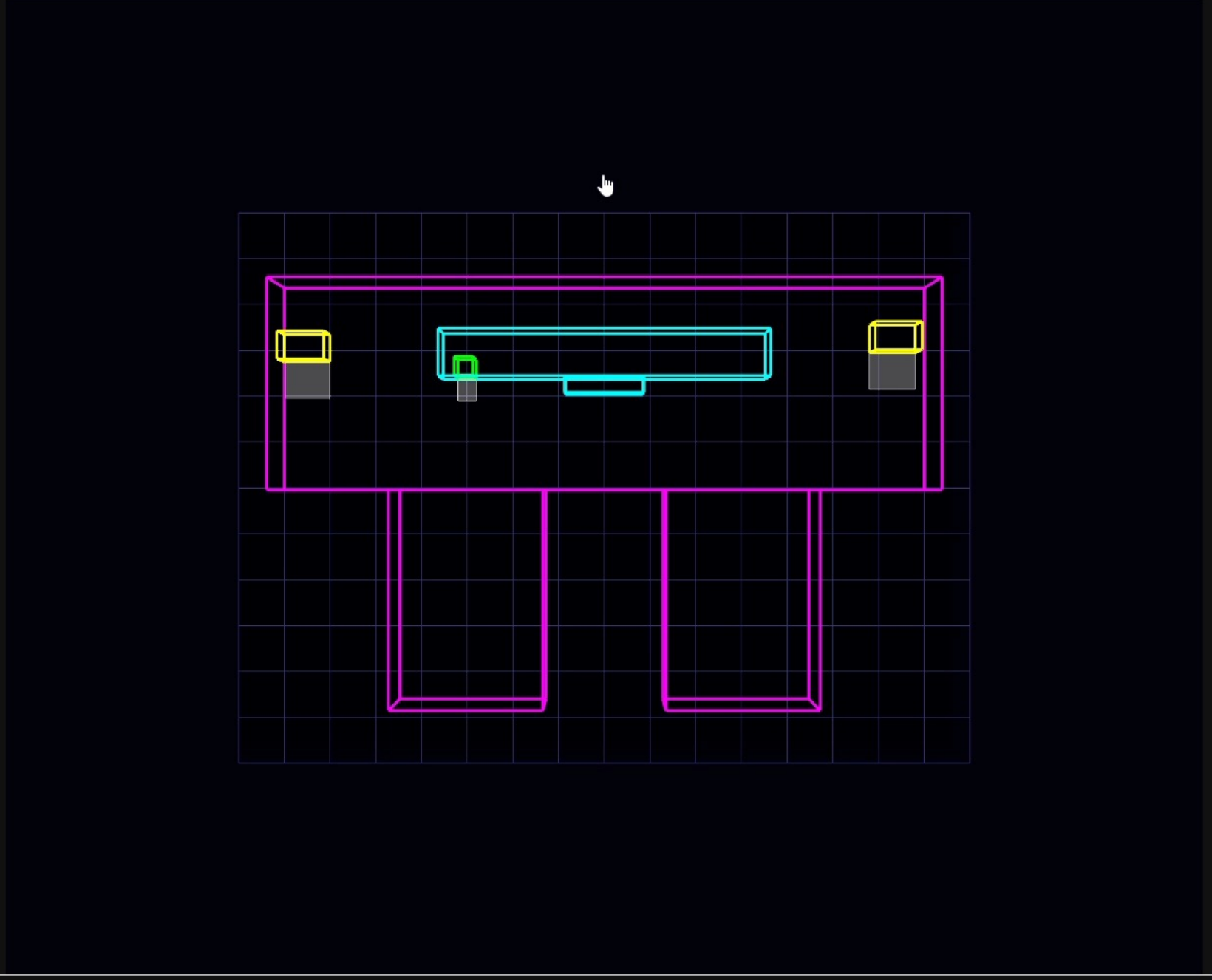
Offline Analysis

CrewCare

AIS Map



Viewer



00 : 00 : 00 . 000

The interface is divided into two main panels. The left panel, titled 'AIS Map', displays a world map with various countries labeled in both English and Arabic. The right panel, titled 'Viewer', shows a 3D schematic of a vessel's internal layout on a grid. The layout includes a large rectangular area with a purple border, two yellow rectangular areas on the left and right sides, and two vertical rectangular areas extending downwards from the bottom of the main area. A mouse cursor is positioned over the top center of the grid. At the bottom of the interface, there is a playback control bar with buttons for play, pause, stop, and various speed settings (1x, 2x, 5x, 10x, 30x, 60x), along with a digital timer showing '00 : 00 : 00 . 000'.



Product Overview

3 functions

1. **Recording** crucial data (VDR 2.0) in a more *complete* and more *anonymous* way: VDR + audio transcripts and 3D skeleton data.
2. **Real-time monitoring & alarm system** using dashboarding tools that measure compliance to best practices: attendance, fatigue, distractions, fall detection, ...
3. **Offline analysis** of crew behavior and usage of the bridge equipment to gain insights that are helpful for bridge design, education,...



Features

Proactive & predictive process

- Fatigue measurement (Optional)
- Positioning & location
- Med' Emcy
- Remote audits & Risk Assessment
- Simulator training
- Muster station
- Incident investigation
- Continues improvement

Vessel / Platforms

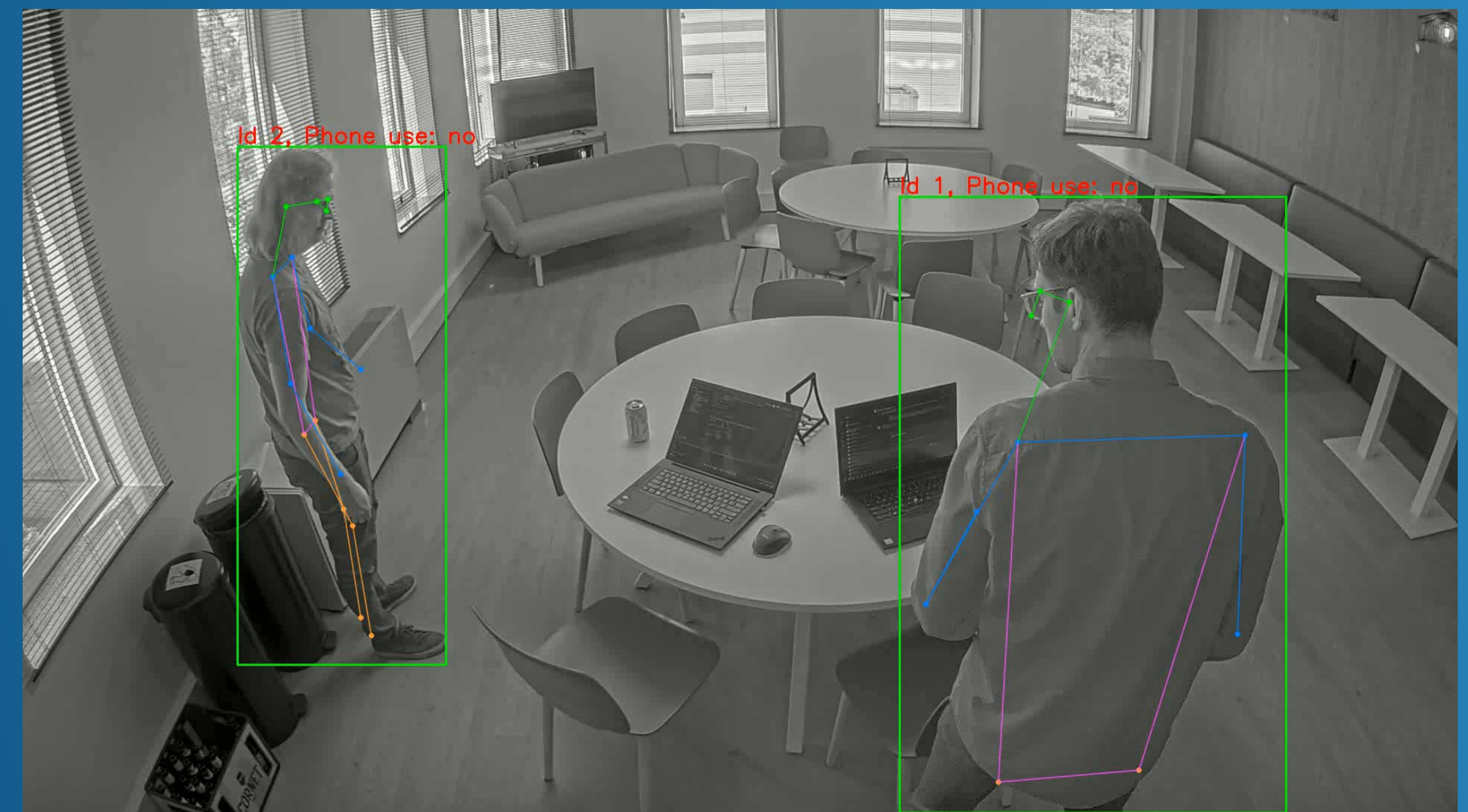
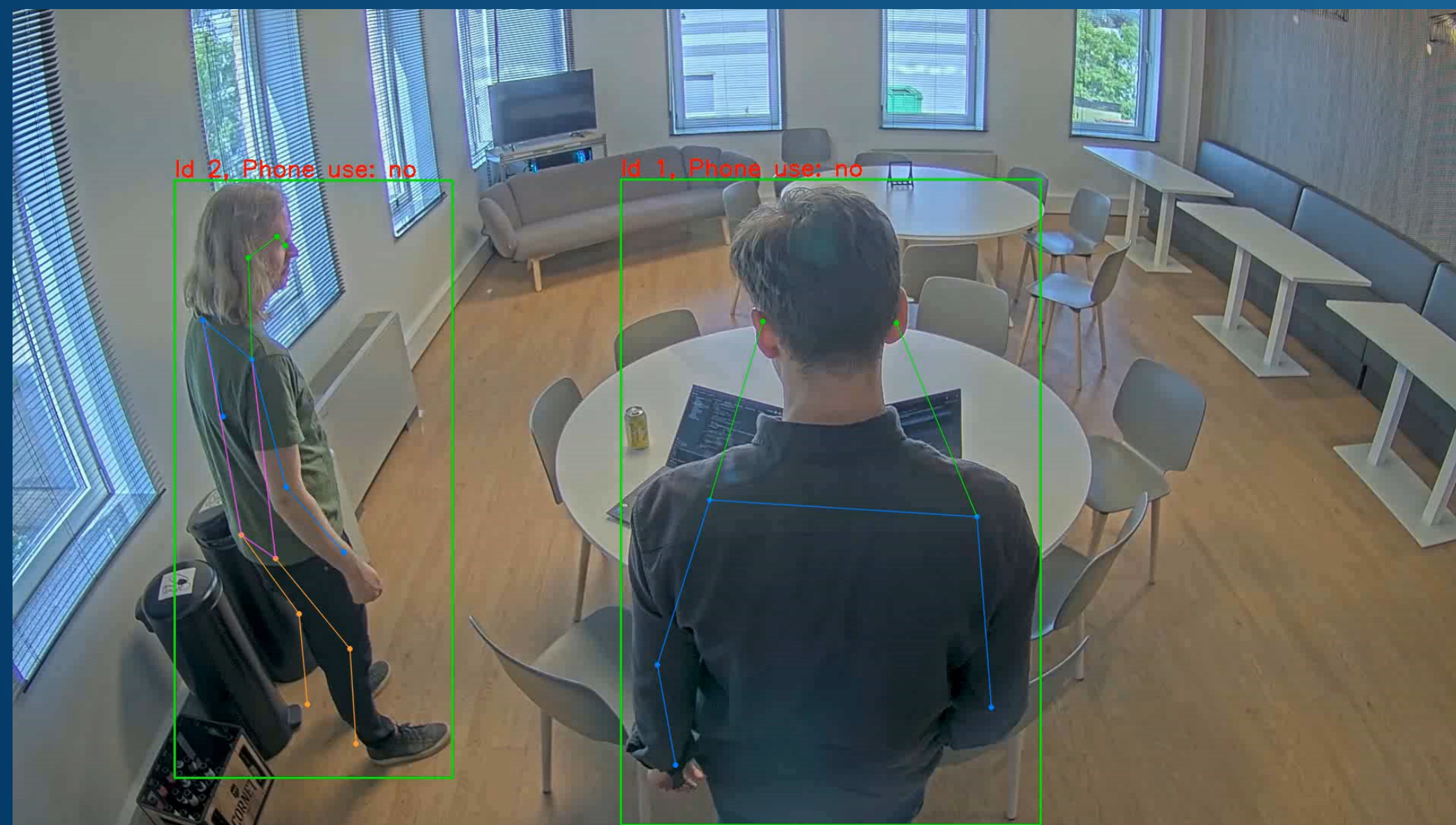
- Bridge
- Engine Room
- Cargo control room
- Accommodation
- Crane Lay down area



24/7

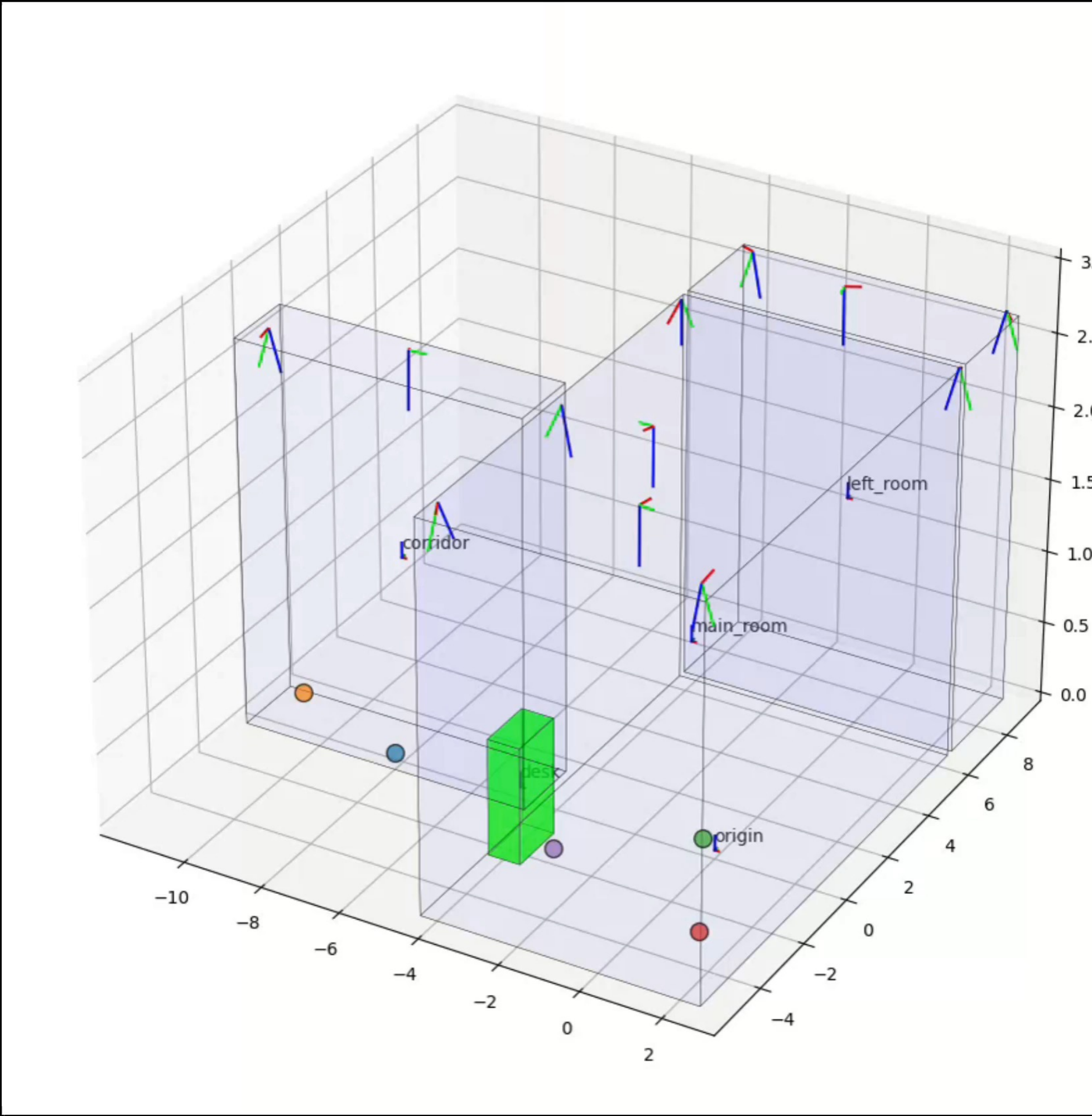
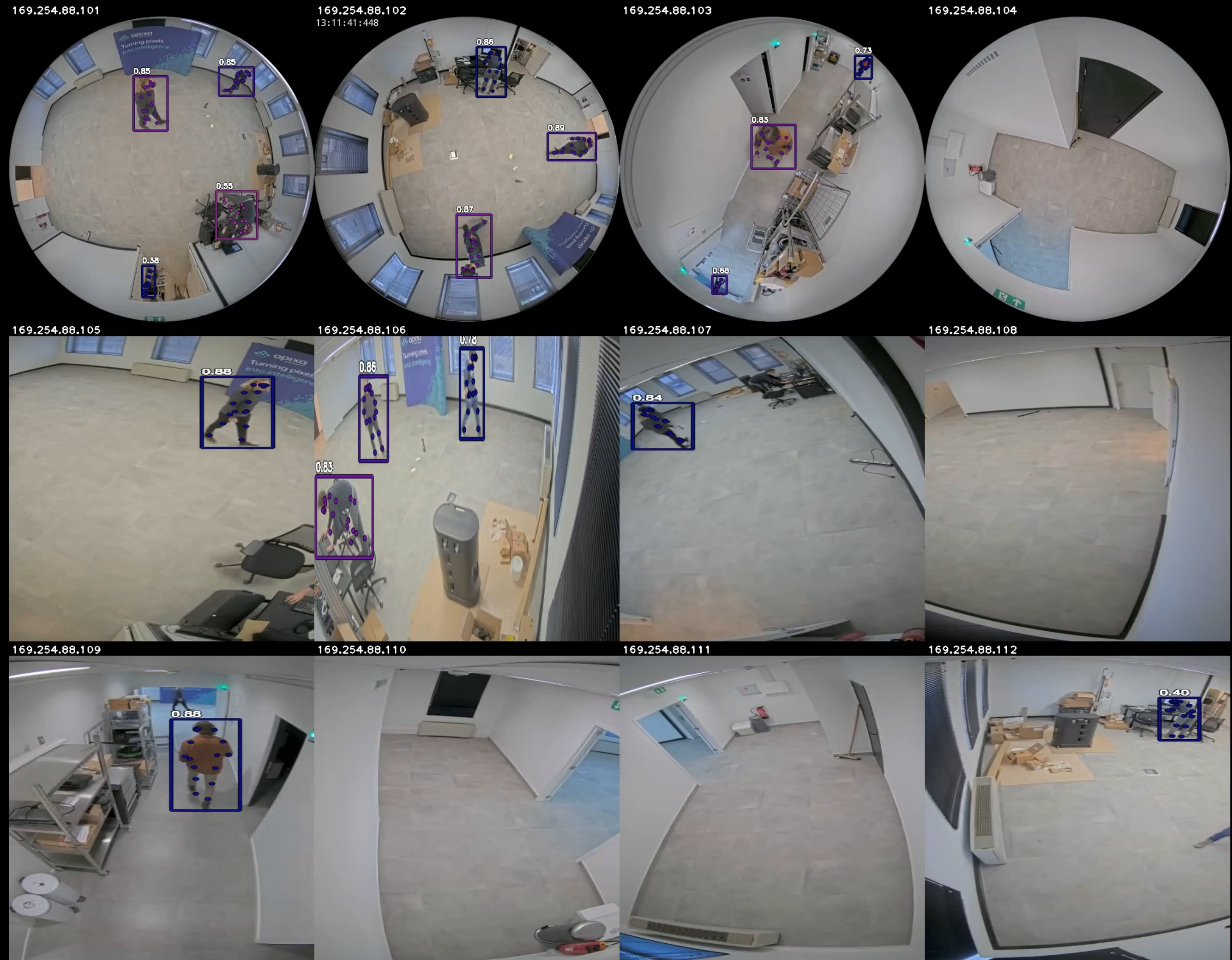


Mobile phone usage test



Binocular usage test

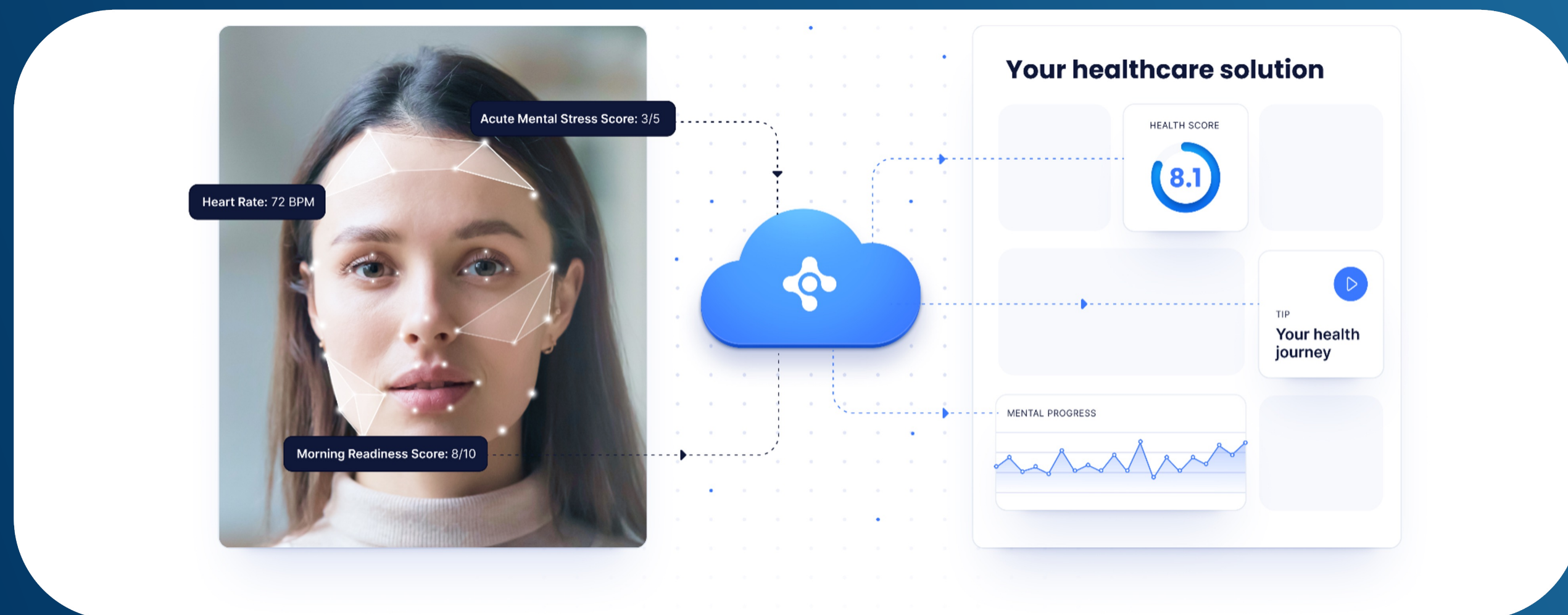




You're doing good! Keep holding still.



Health assessment test:



Health assessment results:

PHYSICAL HEALTH MENTAL HEALTH ENERGY & SLEEP MINDFULNESS

Learn more about your mental health.

Heart Rate Variability 111 ms

Acute Mental Stress Score 4

ANS Balance -1

Mental Not available

Get to know more about your general wellbeing.

Heart Rate 71 bpm

Respiratory Rate 12 brpm

Feedback

Your HRV indicates a very good and non-stressful condition. There is a slight imbalance towards the sympathetic nervous system (SNS). Your condition appears to be relatively balanced, but it may be slightly imbalanced for optimal well-being.

Physical Health Tip

Monitor your heart rate and respiratory rate regularly to keep track of your general wellbeing. Notice any significant changes or deviations from the normal ranges, and consult a professional for further evaluation.

PHYSICAL HEALTH MENTAL HEALTH ENERGY & SLEEP MINDFULNESS

Information about your energy and sleep quality.

Morning Readiness Score 9

ANS Balance -1

Feedback

Your readiness score is excellent, indicating good recovery and readiness for activities. The ANS balance suggests a relatively balanced activity between the sympathetic and parasympathetic nervous systems.

Energy & Sleep Tip

Great job on your high readiness score and balanced ANS! Your body is primed for success. Keep up the good work and continue taking care of yourself to handle any challenges that come your way.

Ethics & GDPR

Ethics

Goal of the application should align with company ethics: a tool to help the crew to follow guidelines.

GDPR

Addresses privacy concerns in different project phases

During development: ask consent of crew to use raw image data for AI training and testing

Once operational:

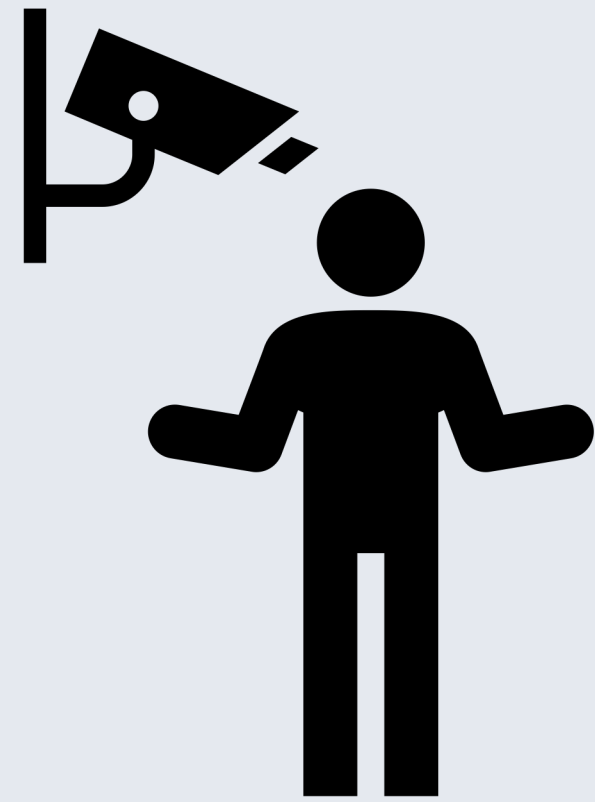
- Data is fully anonymized (stick figure data) and comprehensions (KPIs) are stored in a database
- Raw recordings of last xx hours are stored securely (encrypted, only to be opened by authorized bodies) for VDR 2.0?

AI-Act

Restricts use of AI applications: currently not finalized, but important to track.



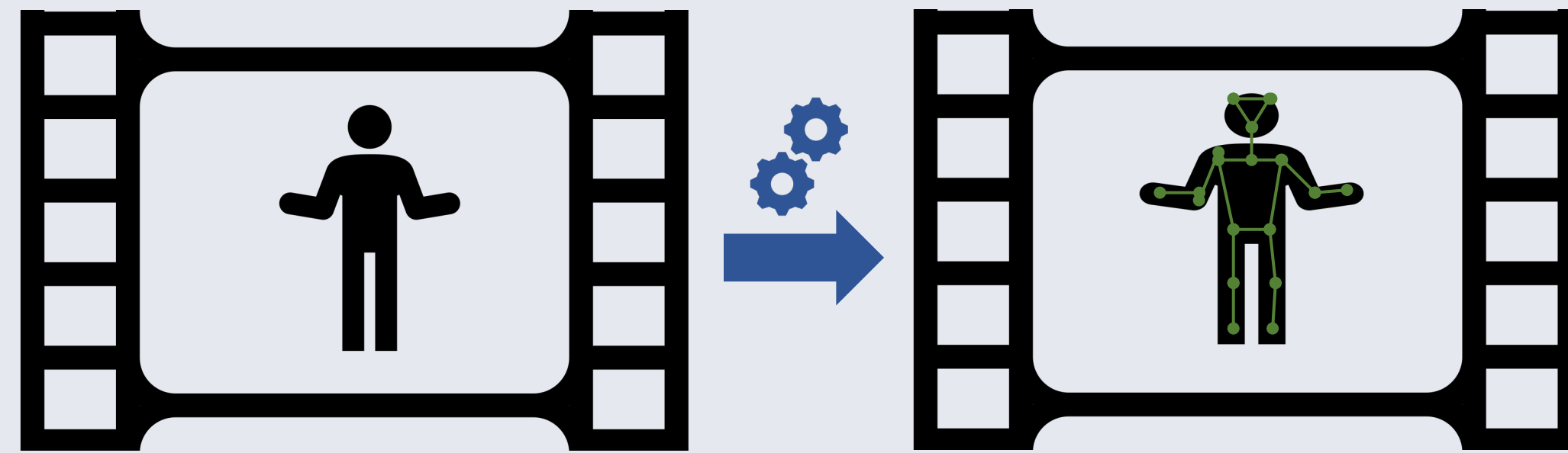
Recording



Smile! This workplace is being monitored with **cameras**, for a research project focusing on bridge **safety** through behavioral analysis.

We are committed to **protecting your privacy** and want to inform you as well as possible on the purpose of these recordings.

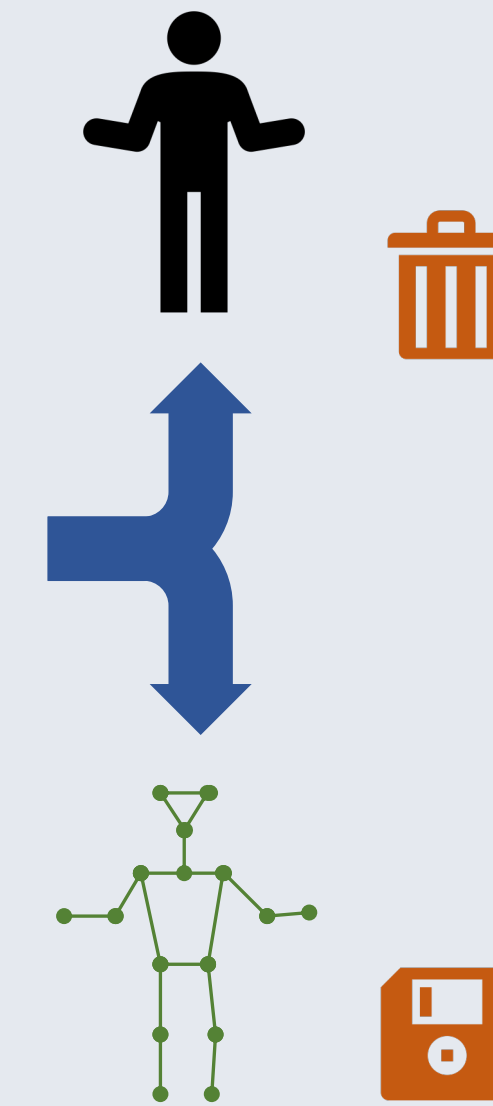
Processing



For this project, we are interested in **analyzing motion behavior** and patterns. Our clever processing algorithms process the video feed we are capturing and determine a so-called **skeleton**, which is an abstract representation of yourself as a **stick figure**.

By analyzing this **anonymous** stick figure, we can then determine several motion patterns we're interested in.

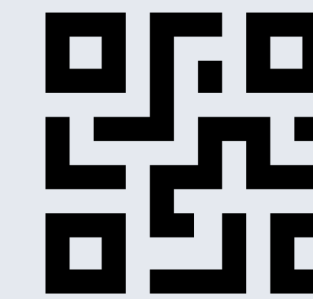
Retention



This anonymous stick-figure representation is the **only data we are storing** to disk.

The video feed used as input for the processing is not stored or retained in any way.

Non-consent



<example QR code, replace with an actual link to the project description>

In case you do not want to be included in any analysis, you can simply push the red button, which will stop the recording and processing immediately.

If you have more questions, or wish to know more about this project, you can visit the project page linked through the QR code above.

Exceptions for VDR 2.0?