

MAI On-Camera Driver Monitoring ACAP - ARPTEC-7

Real-time driver off-road attention and distraction detector.

Driver lack of attention, driver distraction and driver drowsiness are the cause of many accidents.

MAI DMS ACAP runs on Axis Communications camera module supporting ARPTEC-7 and can send sub-second alert to the driver through speakers or to the fleet control center. It also enables fine-grained driver behavior analytics and risk evaluation for driver coaching.

Ideal for:

- ✓ Prevention of risky behavior
- ✓ Driver behavior analytics
- ✓ Real-time driver coaching and risky event detection

Running high-accuracy market standard functions on AXIS ARPTEC-7 and compatible with AXIS P3245, MAI ACAP Driver Monitoring is available for testing, trial license and project integration.

Tramways



Buses



Trains



- Real-time behavior monitoring
- Detailed driver behavior analytics
- Improve fleet safety
- Improve behavior quality
- Improve driver comfort



Operating in buses in Suzhou, Hsinchu and Taipei and validated with automated event video recording.

Passed 250.000 km in May 2020.

Agnostic to RGB or IR, MAI functions are running on Axis ARPTEC-7 at high fps.
Trained and tested over 250.000 km in buses.

Benefit from world class accuracy and increase your project value.

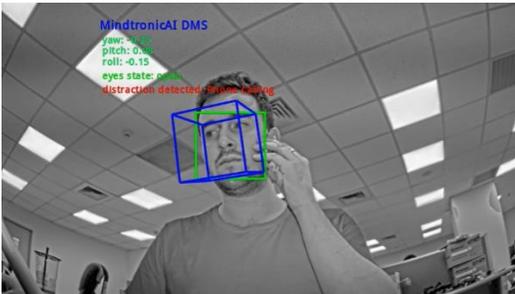
Functions set

Smoking detection



Functions features	Use case
Detects smoking while driving	Real-time coaching Driver behavior analytics

Phone calling detection



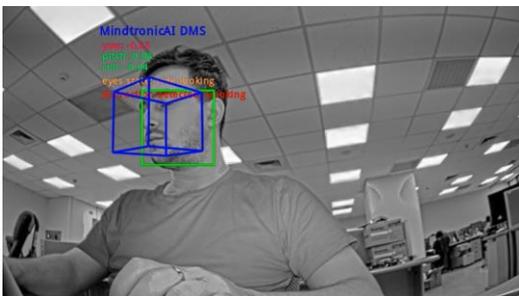
Functions features	Use case
Detects phone call, left and right hand while driving	Real-time coaching Driver behavior analytics

Attention detection (on-road/off-road)



Functions features	Use case
- Attention: On-road / Off-road detection	Real-time coaching Driver behavior analytics
- Driver Presence: On seat/Off seat/ Out of FOV	

Sleep Detection (no glasses on)



Functions features	Use case
Classify driver eye status between close/open, obstructed (reflection, protective eyewear)	Real-time coaching Driver behavior analytics

Notice:

- Supported face occlusion: up to 50% (mask or hands occlusion)
- High-level driver behavior analytics available upon request
- Support mask, mask + sunglasses, hat, beard, and large head-pose Document under NDA. Mindtronic AI Co. Ltd.

Installation guide – Camera set up

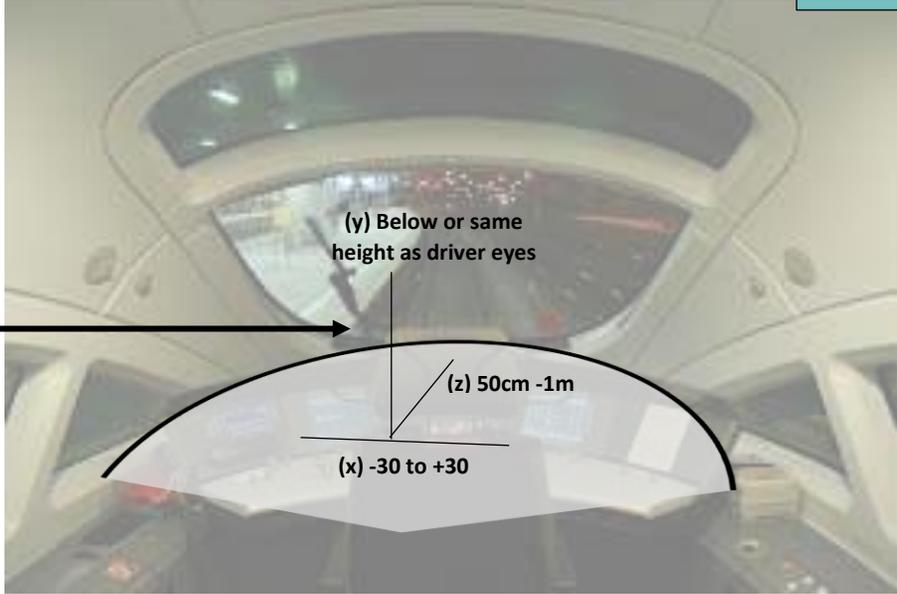
MAI Driver Monitoring ACAP is designed to fit into cockpit of bus, trains, trams in any driver facing position within MAI guidelines.

The suggested position ensures better accuracy for fundamental functions such as off-road attention detection. This means the camera should be positioned at about 30 degrees on the left or right of the driver and if possible, below the driver eyes to avoid any head wear occlusions.

Contact MAI if your project mandates a specific camera position.

Not sure where to set up the camera?

If set up examples are needed, share your cabin dimensions for MAI to test video samples. Bus recorded videos are provided on-demand to respect driver privacy.

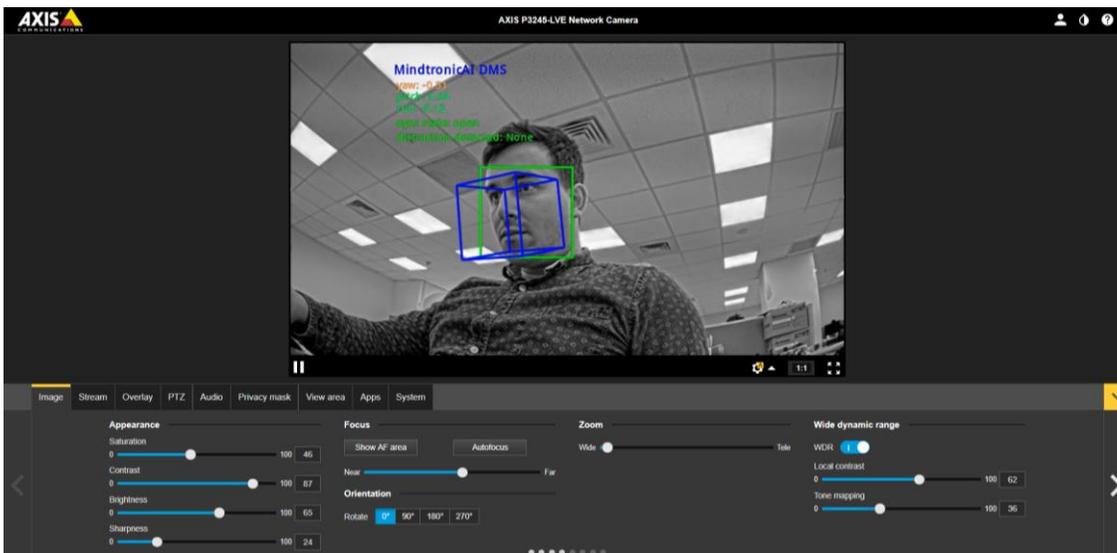


Configuration:

- Face the driver (driver face fully visible)
- From 50 cm to 1m away from driver (z)
- ACAP-based calibration tool
- Requires speed input to disable alert at low speed (if speaker alert)
- Recommended set up:
 - o 0 degrees angle to driver face (x)
 - o Below driver eyes (y)

Optimal Performance Camera Configuration

Camera configuration



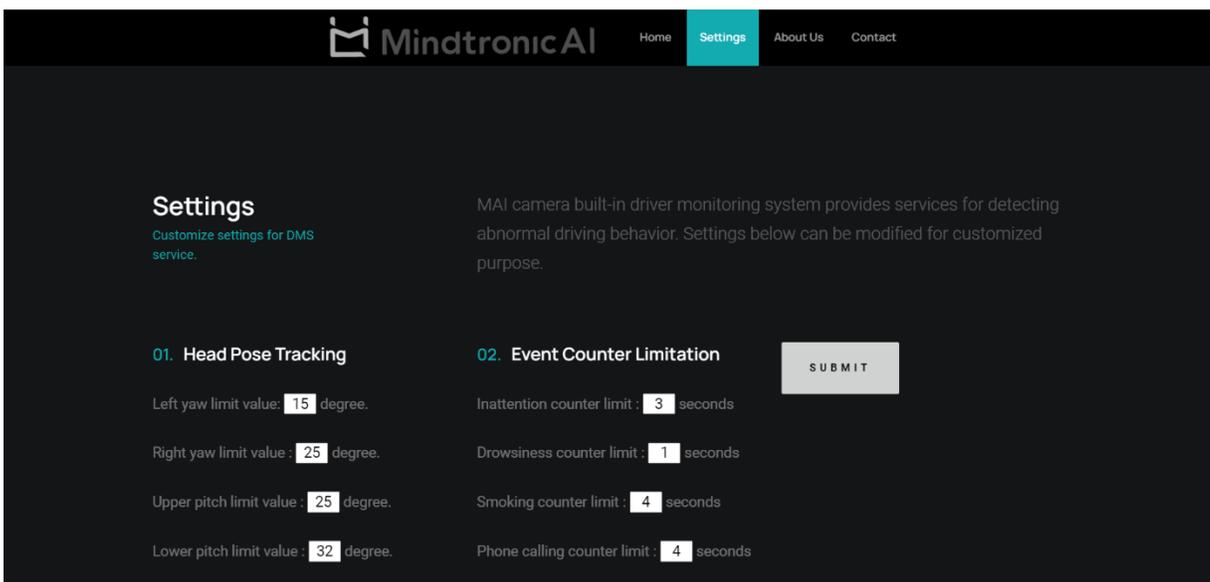
MAI recommends above picture settings to increase image sharpness and guarantee accuracy.

Lightening configuration

- Recommended illumination and color domain: Active IR light – IR mode
- 940nm illumination is recommended – Ask MAI for Axis compatible camera list.
- Functions work in both RGB and IR mode, RGB is the least suitable color domain.

Function configuration

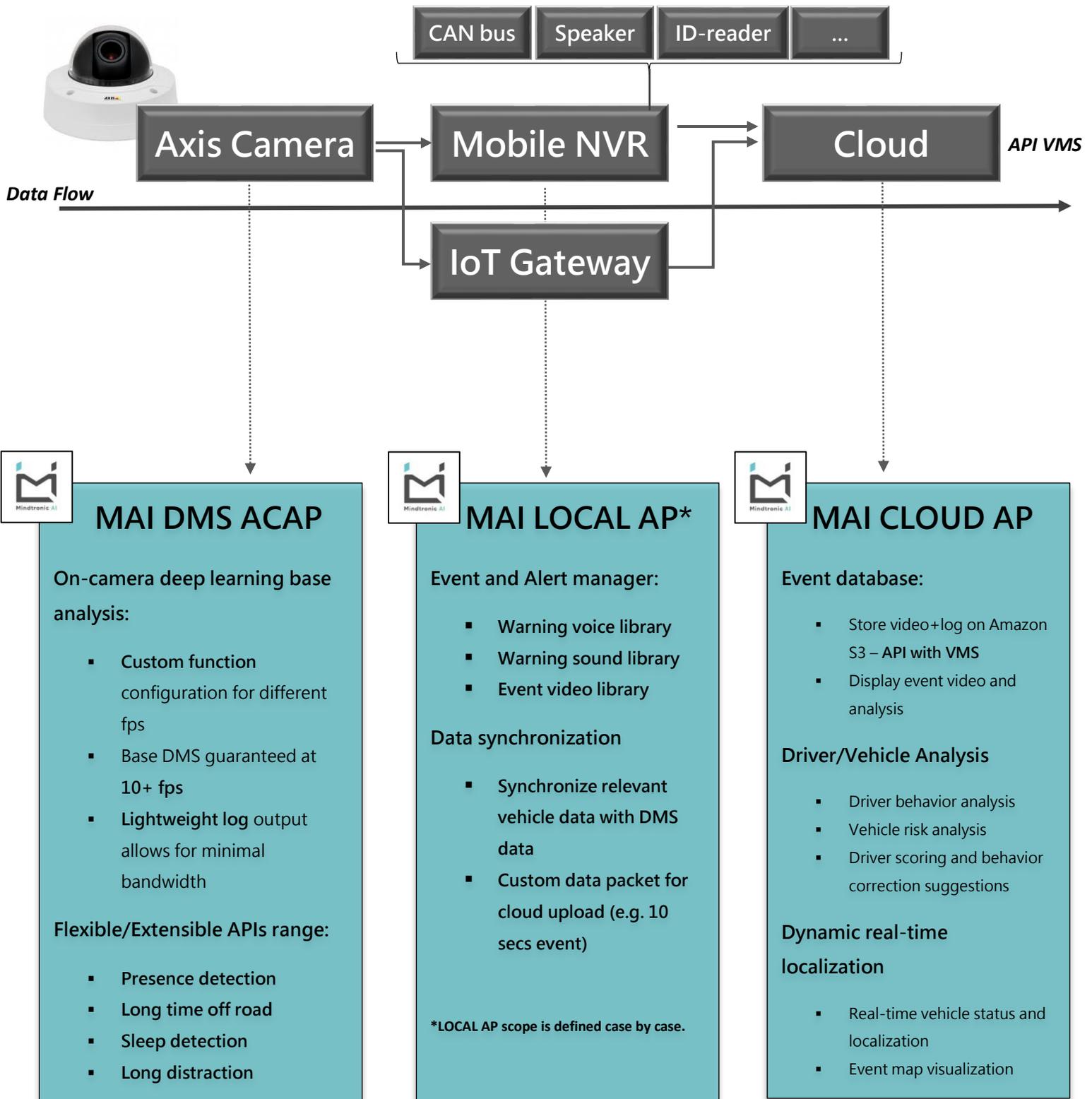
- Configure every function sensitivity



d.

Driver Safety and Security solution

Three offer levels from pure edge to cloud.



MAI Cloud platform assets

MAI offers ACAP license including access to MAI cloud-based Driver safety and security platform. Recommended for fast implementation, database management and easy deployment. MAI cloud platform is licensable white-branded, customizable, and based on Amazon S3.

CONTACT MAI TEAM for more information about MAI' s cloud.

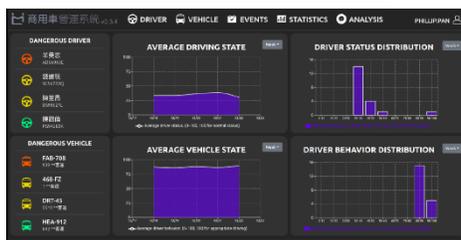
- ✓ Offers driver behavior overview, insightful analytics, and assets management.
- ✓ Real-time alerts and analytics are configurable and respect driver' s privacy.



Event database

Driver/Vehicle Analysis

Event real-time localization



Available support : Taipei / Austin / Shanghai

Contact: fleet@mindtronici.com // raphael.verove@mindtronici.com