



Dahua Mobile Logistics Vehicle Solution

Enable secure delivery for in-transit logistics



Less Loss



More Secure

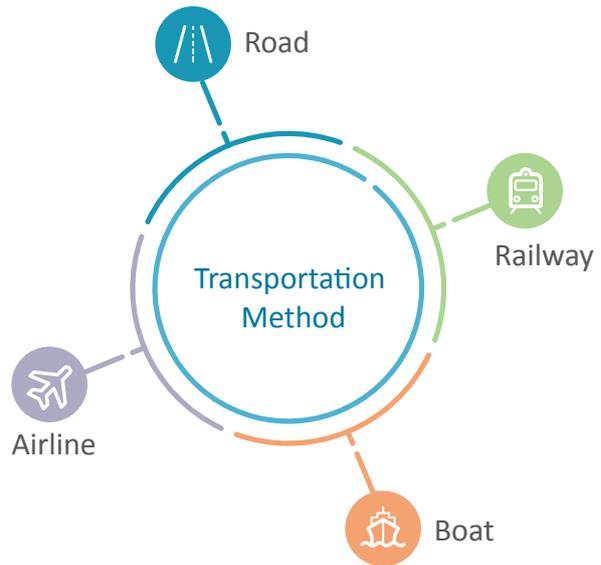


Better Management

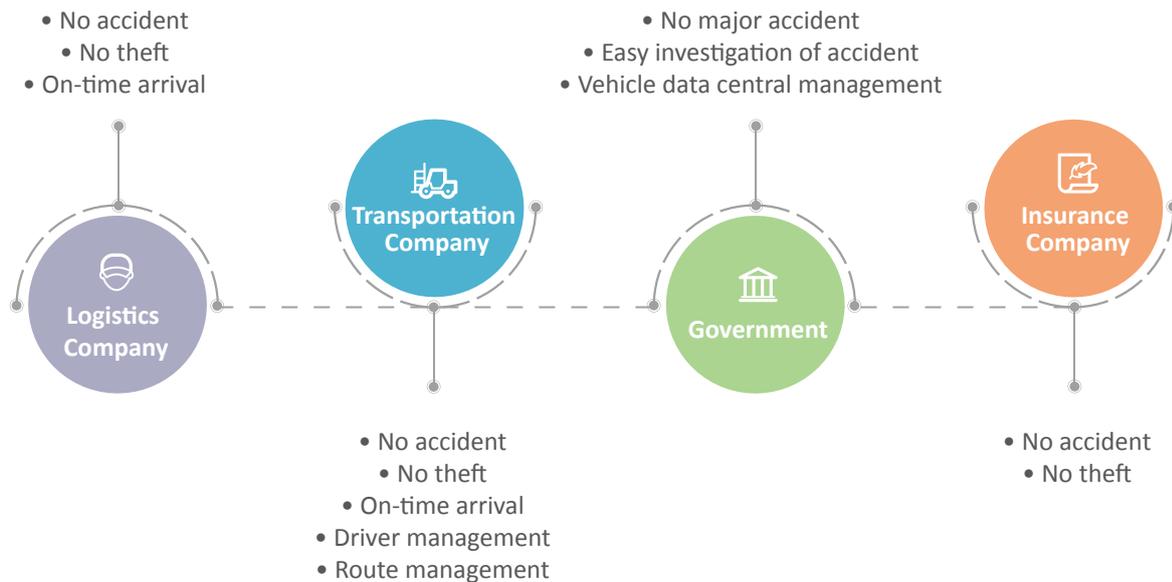
INDUSTRY CHALLENGES

Industry Market

- According to the data from Transparency market Research, the market would achieve over 93 Billion tons by 2026 with GAGR 6.6% growth rate.
- Among the transportation methods that include road, railway, airline and boat, road occupies about 70% according to the 2018 data.



Stakeholder's Concerns



How to decrease theft in the transportation?

- Products worth more than €80 million were stolen from supply chains in Europe, Middle East & Africa (EMEA) region during the first nine months of 2019, according to reported cargo thefts in TAPA's Incident Information Service (IIS) database.
- Based on these figures alone, the losses for 2019 indicates that over €293,000 of goods are stolen by cargo thieves every day.

€250,000

On September 20th, thieves broke the locks and security seal of a trailer that was parked overnight in an unclassified parking place at E42 LeRoeulx in Hainaut province of Belgium, and stole its cargo of toys and games.

€220,000

The highest recorded loss in the United Kingdom for Q3/19 involves thieves that cut open the curtain side of a trailer that was parked at a service station at A14 Cambridge shire on the night of September 3rd, and escaped with a shipment of computers/laptops.

€180,990

In Russia, on September 13th, a driver offloaded 20 tons of clothing and footwear at an unauthorized location in Moscow after reportedly being instructed to do so by an unknown person.

* Source: TAPA website

How to decrease accident in the transportation?

According to the NHTSA investigation, over 90% of accidents are caused by driver problems.



How to improve the process management?



Driver Replacement



Route Change



Delivery Delay

SOLUTION DESIGN

Solution Value

1 Less Loss

- Prevention before the event
- Post-event evidences to confirm the cause and to aid insurance claim

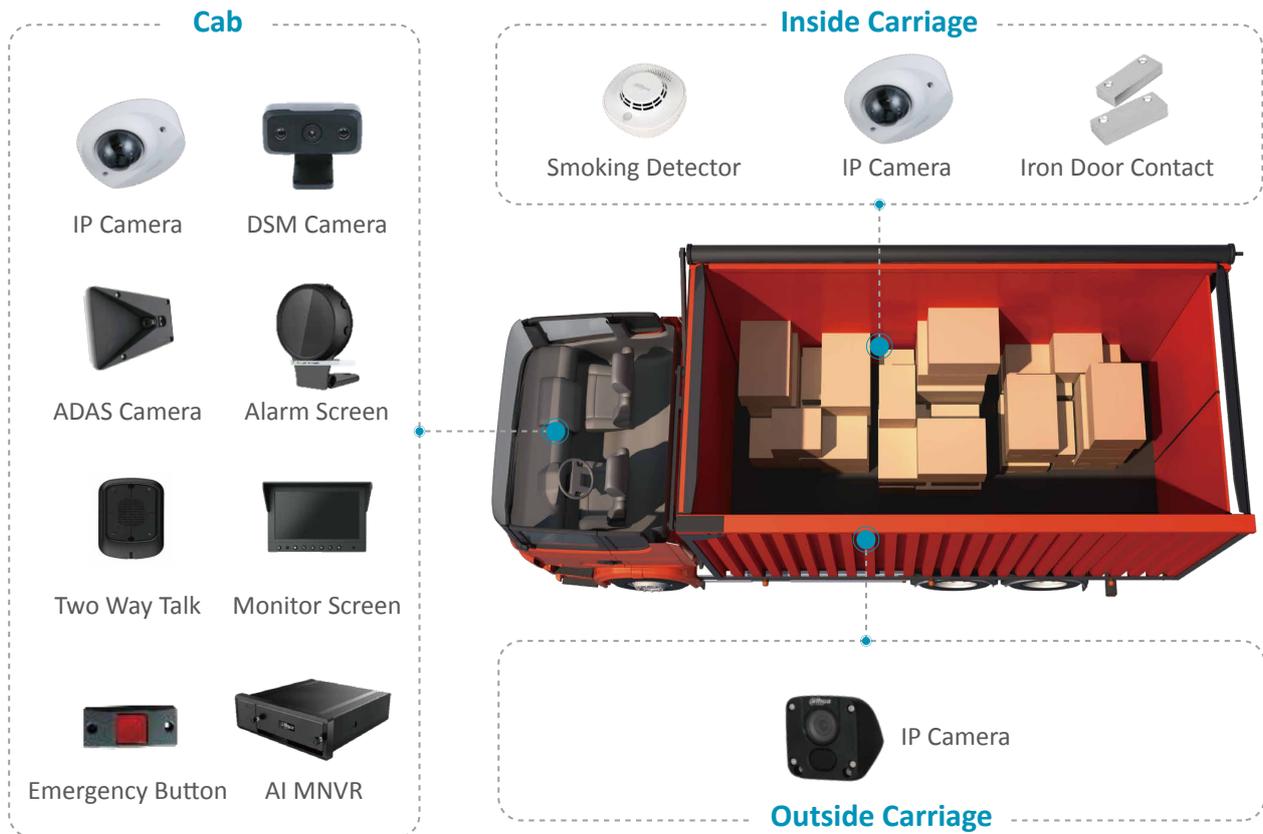
2 More Secure

- DSM helps achieve active prevention to decrease accidents
- ADAS helps drivers to drive safely

3 Better Management

- Make driver management and route management much easier
- Keep interaction between vehicle and management center during transportation
- Big data and statistical reports for analysis to improve management

Solution Overview



Less Loss/ Prevention Before the Event

01

Install surveillance camera in the cab and carriage

- Prevent driver from stealing goods
- Timely alarm if a person has been detected in the carriage

02

Monitor the carriage through door open detector and smoking detector to timely alarm during transportation

03

Timely receive fuel meter data and send alarm in case of abnormal loss

Less Loss/ Post-event Evidences

Comprehensive and reliable video that can serve as post-event evidence, which is helpful for cause analysis and insurance claim.



More Safety/ ADAS

Based on the detection and trace of vehicle, non-vehicle, pedestrian, lane line, sign, vehicle speed, and region, the driver can analyze current and future status and predict potential danger triggered by the alarm.

Forward Collision Warning



Headway Monitoring Warning



Lane Deviation Warning



More Safety/ DSM

Based on the detection and trace of face details, direction, arm detection, and the analysis of vehicle information, the identity and status of the driver can be verified in order to predict potential danger and keep the driver safe.



Fatigue Driving
(Yawning)



Fatigue Driving
(Eye Closing)



Distracted Driving
(Smoking)



Distracted Driving
(Calling)

Better Management/ Driver Face Recognition



Recognize the driver's face to avoid unauthorized replacement



Supports be be integrated with drivers attendance system for efficient staff management

Better Management/ Route Management



Active route on E-map



Electronic fence (Departure Zone/ Arrival Zone/ Driving Zone / Traffic Restriction Zone/ Speed Limit Zone)



Speed limitation and warning



Better Management/ Keep Interaction



Connection with management center with 3G/4G/WIFI/GPS



Live video/active alarm



Emergency button/ two-way talk



Better Management/ Statistical Reports



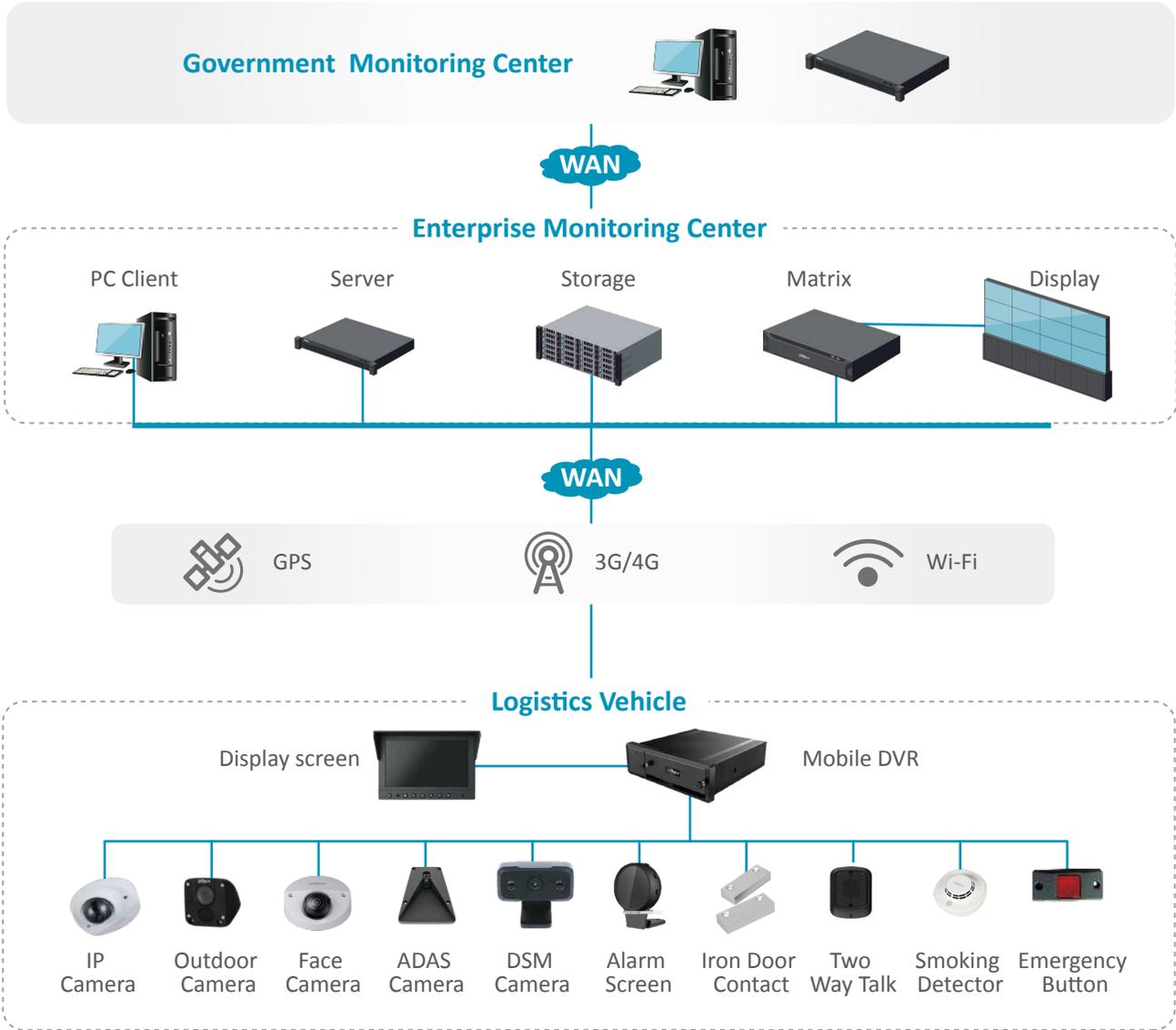
Vehicle route/speed/fuel statistical reports



Driver behavior warning/attendance statistical reports



Solution Architecture



PRODUCT SELECTION

MNVR8104-GFWI MNVR8208-GFWI



- ADAS+DSM camera
- 4\8ch POE IPC input
- 1\2 HDD
- 2 RS232, 1 RS485, 1 CAN
- 3 USB ports, including 2 USB3.0
- 8 alarm + 1 pulse input
- VGA\HDMI output
- 2-ch Face capture, 20 Face databases, 30,000 Face images

MD02



- Screen size 1.54 inch
- Effective pixels 240 × 240
- Brightness 680 cd/m², brightness level adjustable according to the lightning condition
- Color 265k
- RS-232 Baud rate 9600 (M12, 7-core aviation head)
- Audio input 1 channel of M12, 7-core aviation head

DH-DSM-01



- Sensor 1/3 inch CMOS
- Effective pixels 1920 (H) × 1080 (V)
- Electronic shutter speed PAL: 1/25s–1/100000s
- NTSC: 1/30s–1/100000s
- Frame rate 50Hz: 1280 × 720@25fps, 1280 × 720@50fps
- 60Hz: 1280 × 720@30fps, 1280 × 720@60fps
- Focal length 6 mm
- Field of view horizontal: 82°; vertical: 46°
- Fill light 940 nm IR auxiliary illumination
- Video output standard HDCVI

ADAS-01



- Sensor 1/3 inch CMOS
- Effective pixels 1920 (H) × 1080 (V)
- Electronic shutter speed PAL: 1/25s–1/100000s
- NTSC: 1/30s–1/100000s
- Frame rate 50Hz: 1280 × 720@25fps, 1280 × 720@50fps
- 60Hz: 1280 × 720@30fps, 1280 × 720@60fps
- Focal length 6 mm
- Field of view horizontal: 56°; vertical: 32°
- Video output standard HDCVI

IPC-MBW4431/4231



- 1/3" 4Mp/2Mp scan CMOS
- H.265&H.264 triple-stream encoding
- WDR(120dB), Day/Night(ICR), 3DNR,AWB,AGC,BLC,
- 2.8mm fixed lens (3.6mm, 6mm optional)
- Max. IR LEDs length 30m
- Micro SD memory, IP67, IK10, IP6K9K, PoE
- E-MARK (ECE-Regulation No.10)

IPC-HDBW3241F-FD IPC-HDBW3231F



- 1/2.8" 2Mp scan CMOS
- H.265&H.264 triple-stream encoding
- 25/30fps@1080P(1920×1080)
- WDR(120dB), Day/Night(ICR), 3DNR,AWB,AGC,BLC
- IP67,IK10,PoE
- Face capture, face attributes and people counting (HDBM3241F supported)

PRODUCT SELECTION

FAD201A



- 4-Wire Non-addressable smoke detector
- Infrared photoelectric sensor
- MCU processing, eliminate false alarm
- Relay NO. output and LED indicating alarm
- Surface-mount device (SMD) circuit board design

MP06



- Working mode: Full duplex
- Supports amplifier function
- Standard aviation port
- Pickup range: 90cm
- Working temperature: -30°C ~+70°C
- Dimension: 109.7 x 71.3 x 27mm

MLCDF7-T



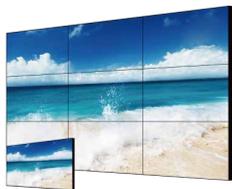
- Resolution: 800 x 480 (LCD)
- System format: PAL/NTSC
- Video input: 1-channel video input. Connects to DVR
- Audio: 1-channel audio input, speaker output
- Voltage: DC6V ~ DC36V
- Power consumption: ≤7W
- Working temperature: -20°C ~+65°C
- Screen dimensions: 198.4 x 138.7 x 31mm

M70-4U-E



- 19" standard 4U ATCA industry box
- Easy and flexible configuration with pluggable card module design
- Supports max 60 screens splicing
- Supports analog/digital video signals input and matrix output
- Supports SD/HD video signal matrix switch and output
- Supports non-compressed digital signal encoding output
- 6 RJ-45 gigabit network ports for matrix control, preview and online central storage

DHL550UDM/460UDM



- Industrial level PVA LCD panel, suitable for extensive 24/7 continuous works
- Ultra-narrow 1.7mm bezel-to bezel design(1.15mm bezel on the left and top sides and 0.55mm bezel on the right and bottom sides)
- SupportHDMI, DVI, VGA, BNC, RS232, USB, Audio
- Professional thermal design to extend equipment lifespan

Platform/Mobile Center



Live



Playback



Event



Mobile



Video



Map



Server

HIGHLIGHT

Integrate Video and GPS to Make Vehicle Online

- Combines audio and video codec technology, GPS technology, and 4G/3G technology to make the vehicle online. The central management center can quickly check the vehicle's situation, make objective decision and act accordingly.



Intelligent Algorithm - Dahua's Core Competence

- Dahua has developed intelligent algorithms of ADAS and DSM, and continuously improve its performance through training from actual projects.
- ADAS and DSM algorithms can run in MNVR without additional expensive server, efficiently saving cost of the whole system.



Reliable Mobile Products

01

Dahua mobile NVR supports HDD and complies with ISO 16750-3 and EN50155 to protect the system from electrical surge and vibration, providing it with perfect anti-vibration capability.

02

- Keeps working for about 5 seconds after power failure to avoid data loss and extend the hard disk lifespan.
- Complies with ISO7637-2 standards.

03

- Works under extreme environment.
- Temperature: -30°C to +70°C
- Humidity: 10%–90%

SUCCESS CASES



Achievement

In 2017, Dahua deployed its mobile solution in about 5,300 vehicles of China Post, providing remote monitoring, remote voice intercom, alarm pre-recording, track query, emergency alarm, etc.

From 2019 year, they have asked Dahua to carry out intelligent upgrades, including DSM, ADAS intelligence function.



Achievement

Deployed Dahua mobile vehicle solution in over 500 vehicles for Kerry during 2018, enabling them to do vehicle route management and driver management through interaction with the management center. It also supports government in monitoring these vehicles.

Continuous cooperation in phase 2 project which will add more feature and extend the solution to more vehicles.

ENABLING A SAFER SOCIETY AND SMARTER LIVING

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* Design and specifications are subject to change without notice.

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