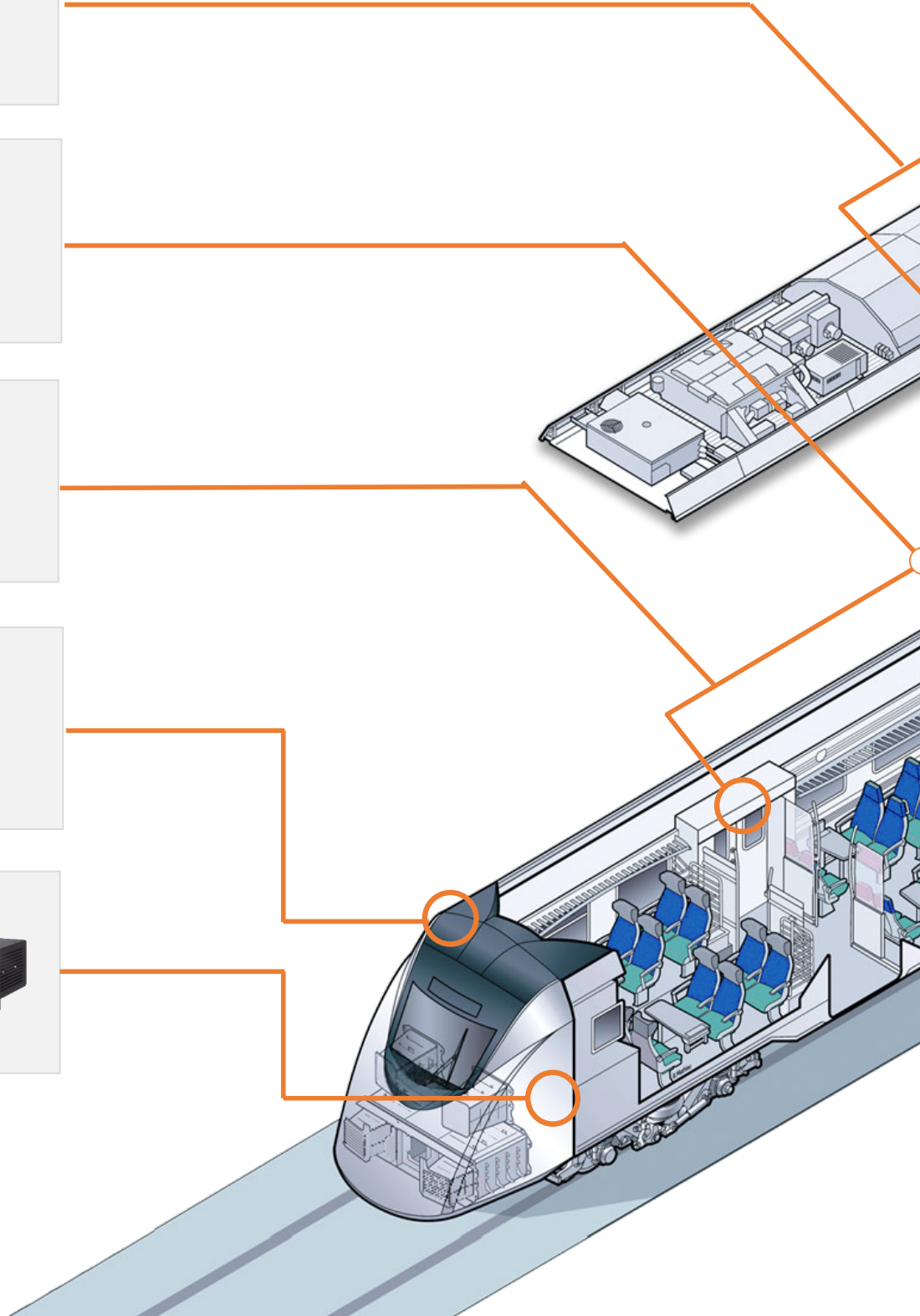
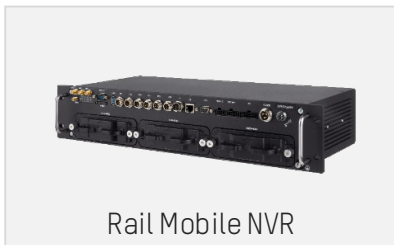
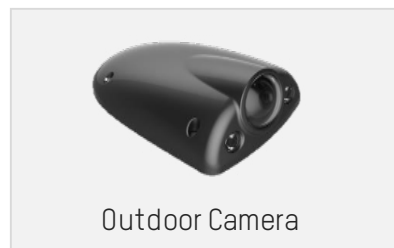
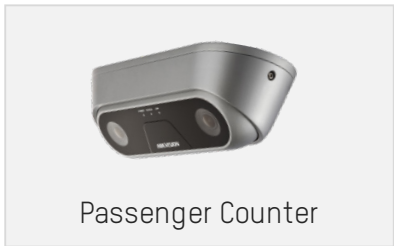
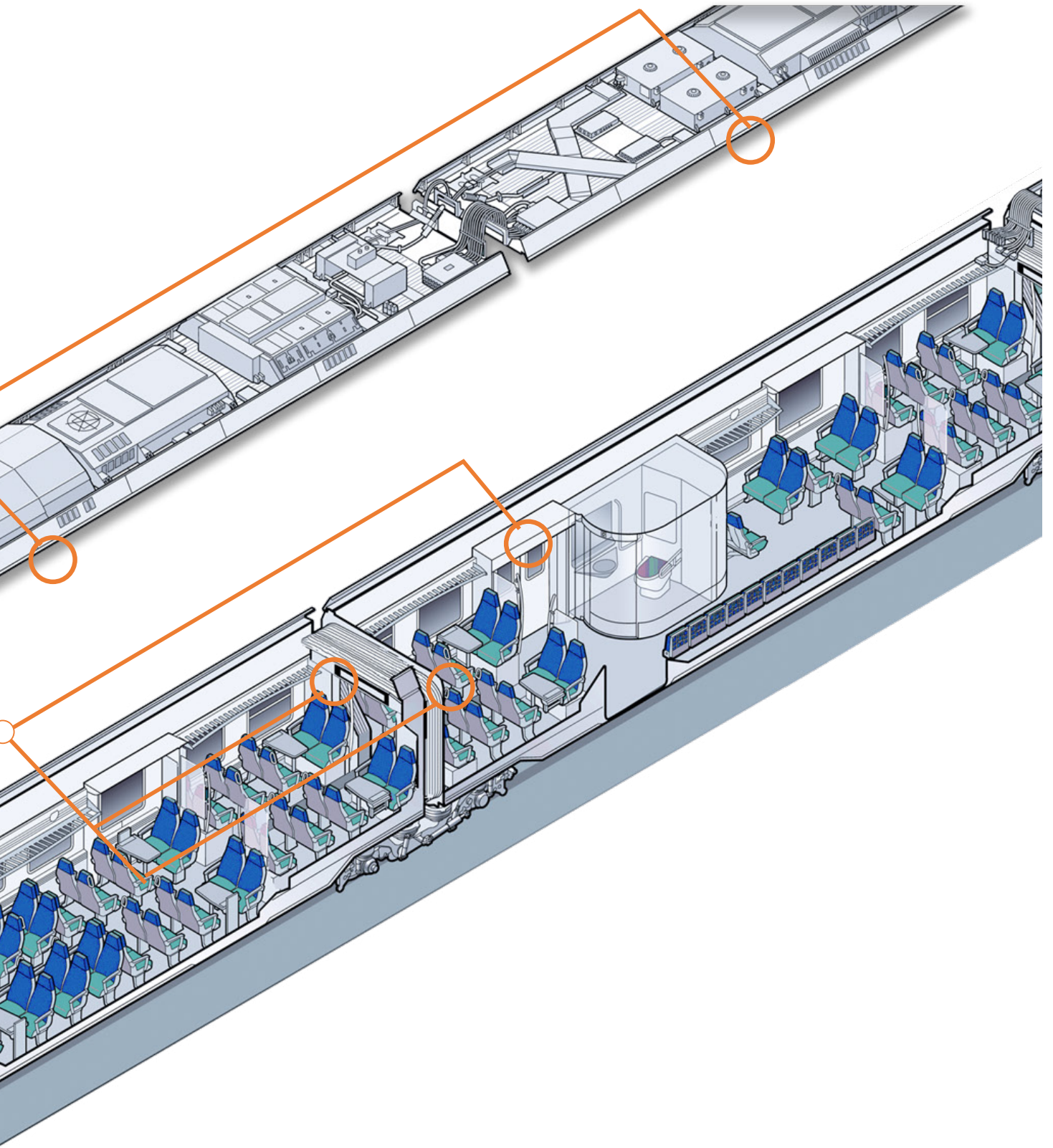




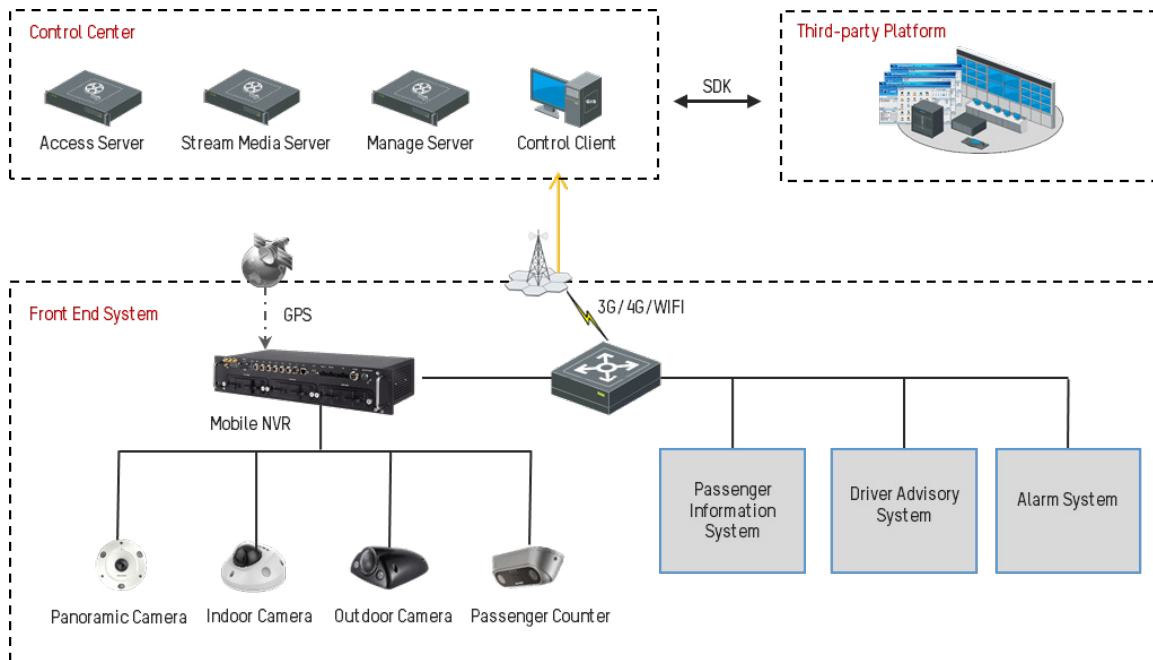
# TRAIN VIDEO SURVEILLANCE SOLUTION

# 1 SAMPLE SHOW





## 2 SYSTEM STRUCTURE



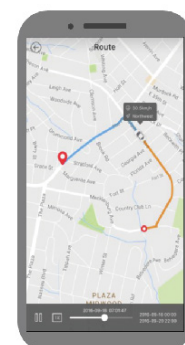
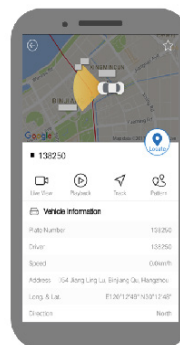
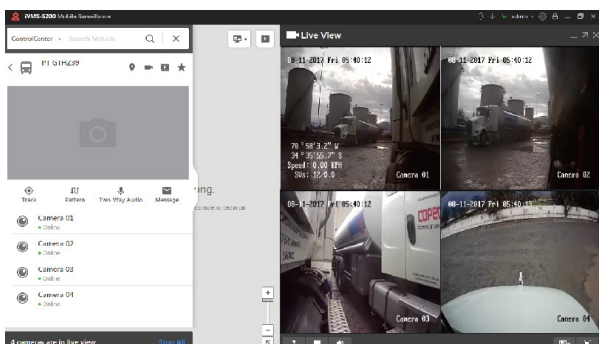
### Front End

The front-end system is made up of on-board NVR/DVR, cameras, panic button and intercom. They are mounted on the vehicle to collect, store and upload vehicle video & audio data. The real-time monitoring video of the vehicle can be integrated to Driver Advisory monitor in a single or more window divisions.

### Management Platform

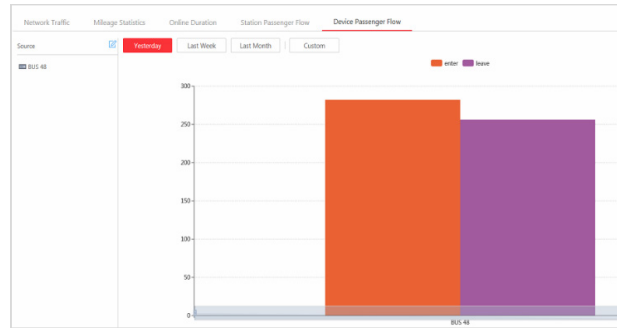
The management platform is the iVMS-5200, which manages the mobile surveillance system by providing functions of video monitoring, record playback, GIS positioning, track playback and more. It is accessed by on-board NVR/DVR for monitoring vehicles, checking alarms, obtaining on-board records, locating vehicles, supervising vehicle route, checking device and system status and generating reports.

## 3 SYSTEM FEATURES



### Video & location surveillance

Based on technologies of video & audio encoding & decoding, wireless transmission, GIS map and massive data storage and retrieval, this system realises real-time video monitoring and intelligent linkage alarm and facilitates management and decision-making. The seamless integration of video monitoring and GIS technology greatly improves vehicle management and operation.



### Passenger counter

Hikvision dual-lens people counting technology is based on the binocular stereo vision and performs people detection and tracking in 3D space, analyses the people moving track and finally achieves precise counting data.

Passenger counting uses three technologies: binocular stereo vision, 3D people detection and tracking and height filtering.



### Shadow zone monitoring

The system has a single-sensor 360° panoramic camera, which is designed to meet the increasing market demand for higher data accuracy and lower bandwidth. This camera can make sure there is no shadow zones in the passenger compartment and the view to the train vestibule areas is unobstructed.

## 4 PRODUCT PERFORMANCE

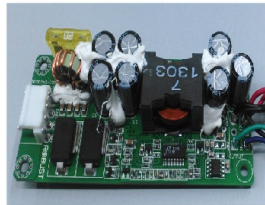
### Mobile NVR



- Special power design: 24V/110V option
- Standard rack design: 482 × 284.3 × 89.5 mm (W × D × H)
- Strong performance: support 32-ch 2 MP access



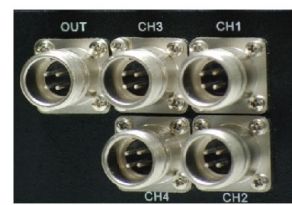
**Hard disk box**  
 USB3.0 Video back-up  
 MIL-STD-810G Anti-vibration  
 -20-60 °C working range



**Special design Power Module**  
 Wide-range power supply: 60-160VDC or 18-60VDC;  
 Short Circuit Protection;  
 Configurable Startup & Shutdown



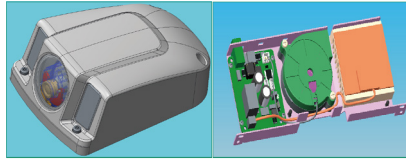
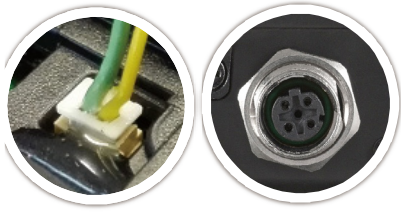
**Super capacity**  
 Emergency power supply (5-7s)  
 HDD protection  
 Extra-long operating life



**Special interface**  
 Aviation connector cable  
 Support POE

Mobile NVR/DVR Certification: CE/ROHS/EN-50155/EN-50121/EN-45545/EN-61373

## Mobile camera



### IK10+ - Impact Protection Rating

Protected against 20 joule impact  
Equivalent to impact of 5 kg mass  
dropped  
from 400 mm above impacted  
surface

### Intelligent thermal control for mobile camera

When the heating module starts  
working is based on the outer  
temperature. The device works well  
with an ambient temperature from  
-40° to 70°C

### IP68 - standards for waterproof level

Water pressure: 400 KPa  
Water flow: 100L/min  
Length: 2.5-4m  
Test duration: >3min

## 5 APPLICATION

### Holland Ned Train Project



**Quantity:** 400 Mobile DVR

**Model:** DS-9000 series

#### Introduction:

- Controller Area Network integration
- Wide range of working temperature
- En50155 Certification of Whole system, Special requirements of cables
- S.M.A.R.T. technology and hard disk suspension management
- Private aviation connector is adopted to ensure stable signal

### Poland ICC train Project



**Quantity:** 100 Mobile NVR

**Model:** DS-MP3516 Series DS-2XM65 series

#### Introduction:

- All areas in the train are covered by video surveillance
- Wide range of working temperature
- En50155 Certification of Whole system, Special requirements of cables
- Integrate with the driver advisory system
- Private aviation connector is adopted to ensure stable signal

### Chong Qing Metro Project



**Quantity:** 400 Mobile NVR

**Model:** DS-MP3516 Series DS-2CD61 series

#### Introduction:

- All areas in the Metro are covered by video surveillance
- Integrated with the Passenger Information System
- Wide range of working temperature
- S.M.A.R.T. technology and hard disk suspension management
- Private aviation connector is adopted to ensure stable signal

## 6 PRODUCT INTRODUCTION



**DS-MP3516-RH**  
Rail Mobile NVR

- 32-ch 2MP IP cameras access(via switch expand 26-ch)
- 25/30fps@1080p
- POE interface
- 6x 2.5-inch HDD/SSD
- Pluggable disk box with vibration damping technology
- H.265 video compression to save storage capacity
- EN 50155/EN45545/EN50121 certification



**DS-2XM65 series**  
Outdoor camera

- Up to 1.3 / 2.0 megapixel high resolution
- 1280 × 960 / 1920 × 1080 @30fps video
- 4mm/6mm/8mm/12mm fixed lens
- 120dB Wide Dynamic Range/IR range up to 30 m
- Operating conditions -40 °C to 70 °C
- M12 aviation plug (optional)
- EMARK/EN50155/EN45545/IP68/IK10



**DS-2XM67 series**  
Indoor camera

- Up to 2.0 / 3.0 megapixel high resolution
- 1920 × 1080/2304 × 1296 @30fps video
- 2.0/2.8/4/6/8mm fixed lens
- 120dB Wide Dynamic Range/IR range up to 30 m
- Operating conditions -40 °C to 70 °C
- M12 aviation plug (optional)
- EMARK/EN50155/EN45545/IP67/IK10



**IDS-2XM68 series**  
Passenger counter

- Dual-lens Stereo Vision technology, Based on Deep Learning algorithm
- 3D Target Tracking technology
- Up to 3 m IR range
- Flash memory storing people counting data
- Operating conditions -30 °C to 60 °C
- M12 aviation plug (optional)
- EMARK/EN50155



**DS-2XM63 series**  
Fisheye camera

- Up to 6.0 megapixel high resolution
- 3072×2048 @ 25fps@30fps video
- Multiple viewing modes
- 360° view angle
- IR range up to 15 m
- Operating conditions -30 °C to 60 °C
- EMARK/EN50155/EN45545/IP67/IK10

# TRAIN VIDEO SURVEILLANCE SOLUTION



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