

Drive your own road to success! Smart. Safe. Groundbreaking.

Intelligent MOBOTIX video technology for safe and effective road traffic and transport



MOBOTIX
Beyond Human Vision

Everything is in the Move!

MOBOTIX road traffic technologies for enhanced safety, smooth processes and new perspectives in smart cities

Today, roads are the lifeblood that pulses through our cities. Sustainability, visionary technologies and groundbreaking mobility concepts create a new framework. Safety always comes first, but effective and sophisticated road management processes are becoming increasingly important. They protect the environment, reduce stress and save money — all with the help of MOBOTIX video technology.

1 License plate recognition

- Detects license plates across multiple lanes
- Access control using blocked and safe lists
- Detects vehicle class, make, model and color
- Detection protocol for qualified search (Smart Data)
- Helps investigate/prevent fuel theft (gas stations)

2 Traffic management and counting (Smart City)

- Counts vehicles for analysis and traffic control
- Detects objects (truck, car, motorbike, etc.)
- Determines speeds (traffic flow)
- Detects vehicle and pedestrian behavior

3 Container, railcar, and dangerous goods detection

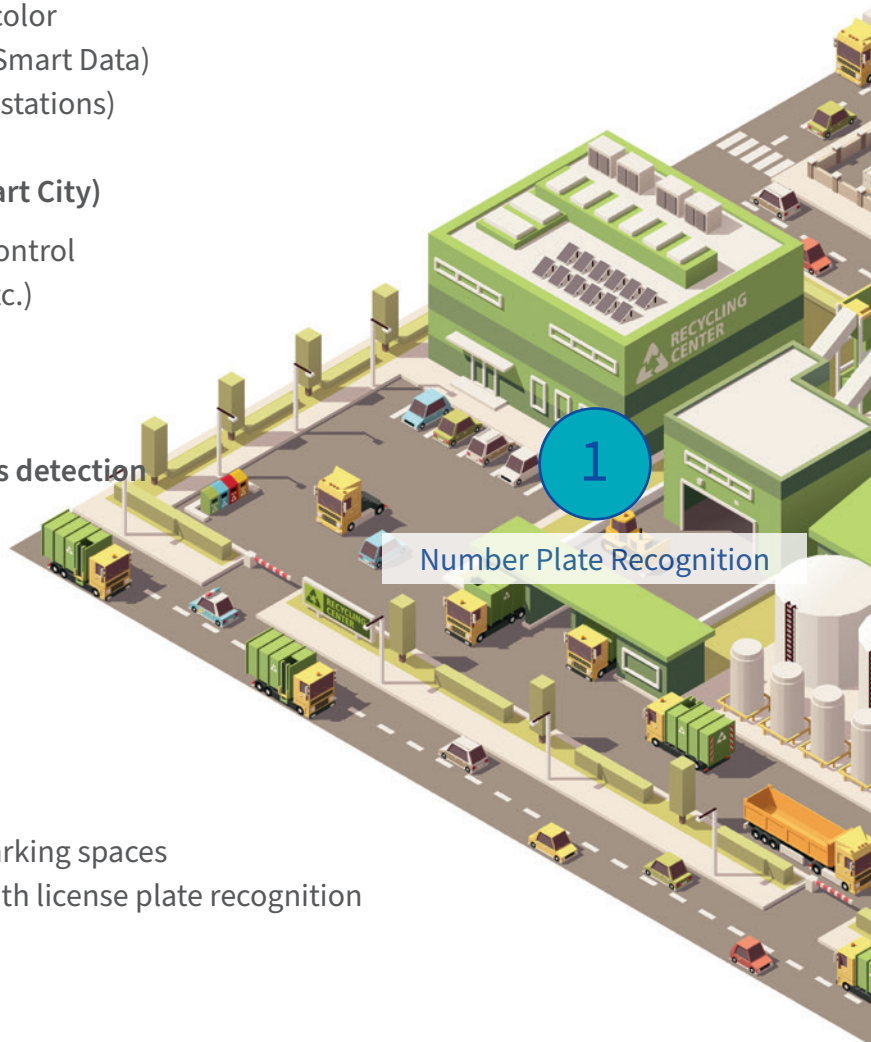
- Detects freight container codes
- Follow containers and control processes
- Detects dangerous goods labels
- Uses blocked and safe lists
- Includes an interface for data search

4 Parking lot organization

- Detects and counts free and occupied parking spaces
- Access control (blocked and safe lists) with license plate recognition and make/model/color application
- Supports automated payment
- Helps keep parking lots safe

5 Mobile and flexible solutions

- Mobile version for use in vehicles (police, fire department, train, bus)
- Security cameras for taxis
- License plate recognition in two directions simultaneously with one camera (e.g. entrance and exit)





2

Traffic management and counting (Smart City)

5

Mobile and flexible solutions

4

Parking lot organization

3

Container and dangerous goods detection

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The MOBOTIX M73 high-end camera detects:

"01-GBB-1 • Netherlands • Mercedes-Benz •
CLA • Red • Car"



Enhanced security through detection of make, model and color

In addition to license plate recognition, Make-Model-Color applications also provide built-in detection of **the color, make, model and type of vehicle**, thus offering additional data for advanced application solutions and making it **even easier to accurately identify** vehicles. The video system automatically issues a warning if license plate and vehicle type do not match information in the system. The vehicle can then be blocked from entering the company premises or secure area.



Prevent and Investigate Fuel Theft

Fuel theft is still one of the main problems faced by gas station operators. The outstanding performance of the S74 offers reliable **license plate and vehicle recognition on two 4K image sensors simultaneously at two different installation locations** (e.g. gas station entrance and exit). This means fuel theft is always detected.



Automatic License Plate and Vehicle Recognition

Process automation for enhanced security

MOBOTIX cameras **detect license plates in real time**, allowing vehicles to be identified using applications such as tracing or access control. Combined with **make, model and color** recognition, identification is even more precise.

- Detects one- and two-line **license plates (worldwide)**
- Detects up to **four lanes**, depending on the number of lanes at up to **200 km/h**
- Detects the **color, make, model and type** (car, truck, etc.) of vehicle for advanced application solutions
- Searches via **detection protocol** (Smart Data/event search via MxManagementCenter and MOBOTIX HUB)

***IMPORTANT:** Criminal tracing based on license plates **complies with data protection guidelines**. License plates that are not searched are simply read and discarded. Only license plates that match a search file will trigger alarms.*

Key application areas:



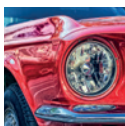
Automated access control

Entry and exit via blocked and safe lists, e.g. automatic barrier opening for company premises, factory sites, secure areas, etc.



Border crossing control

Automatic border crossing control (safe and blocked lists)



Advanced license plate recognition

Enhanced security for access control by means of advanced license plate recognition including make, model and color



Fuel theft

Investigation and prevention of fuel theft at gas stations



Toll booths

Faster processing at toll booths



Law enforcement

Locating stolen vehicles or vehicles under investigation



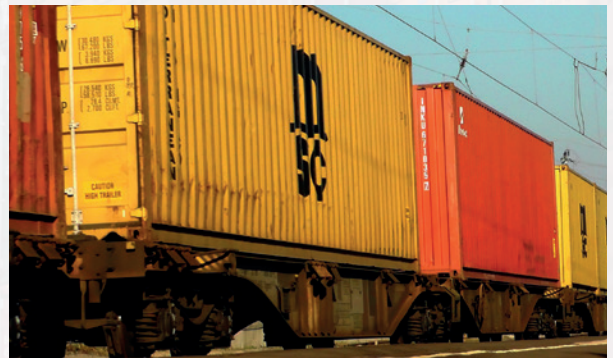
More information:
<https://www.mobotix.com/en/solutions/solution-packs/traffic>

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Container Code and Railcar Recognition

Using intelligent apps, MOBOTIX IoT cameras identify **freight container codes in accordance with ISO 6346**, and **train wagon numbers in accordance with the specifications of the International Union of Railways**. The solutions offer the possibility to search specifically for individual components. They are mainly used in logistics, but are also used in law enforcement.



License Plate Recognition/Dangerous Goods

With this app, MOBOTIX cameras can recognize **license plates** from all over the world Latin, Thai and Arabic characters based on deep learning processes. This app can also simultaneously detect **dangerous goods plates** (in accordance with the European Agreement Concerning the Carriage of Dangerous Goods by Road Vol. 1).



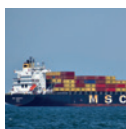
Container and Dangerous Goods Detection

Determine what and where goods are moving

Most goods are still being transported by road. For better hazard and accident management and efficient logistics, it is important to be able to track what and where goods are being transported. If there is an accident, it is critical that emergency responders know if hazardous materials are involved. MOBOTIX video technology is able to provide all this information with the help of built-in apps.

- Recognizes railcar numbers/codes according to **specifications by the International Union of Railways**
- Detects freight container codes according to **ISO 6346** (serial number/container code, owner, type, size)
- **Follow** containers and railcars and control processes
- Simultaneously detects license plates and **dangerous goods labels on vehicles traveling up to 160 km/h**
- **Data search** (e.g. search for specific container) **across multiple cameras and locations** using the MOBOTIX video management system

Key application areas:



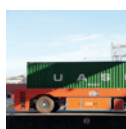
Process documentation

Track container routes and processes. Automatic proof for liability issues in the event of damage (container condition detection)



Monitor driving restrictions

Monitoring of driving restrictions with dangerous goods on restricted routes



Border control

Follow container routes across international borders, optimize processes for control/search of containers being transported



Identification of dangerous goods

Identify dangerous goods in the event of an accident (e.g. in tunnels)



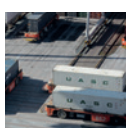
License plate matching

Ensure that the correct vehicle is carrying the container (license plate checked against the container code)



Process automation

Automate and streamline processes processes (management and delivery updates)



Automated access control

Apply blocked and safe lists; reduce waiting time for vehicles entering locations, save money on personnel costs



Legal requirements

Security and compliance with legal requirements



Container Code Recognition App

<https://www.mobotix.com/en/mobotix-certified-apps/container-code-recognition>

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MOBOTIX M73



Traffic Flow Analysis

Intelligent traffic control with MOBOTIX video technology

Smart cities rely on digital technology to control and manage modern traffic conditions. Intelligently linking real-time traffic monitoring with traffic lights or digital signage keeps traffic flowing. This can be used to create diversions and traffic jam. For Example, hazards can also be quickly detected and managed effectively. All these features help make traffic safer, flow better and more sustainable.

- **Object recognition** (car, truck, motorbike, pedestrian, etc.)
- **Analyze the behavior** of vehicles and pedestrians (e.g. identify and track vehicles)
- Determine **traffic density** and the **average speed** of vehicles

Key application areas:



Mobility management

Traffic flow analysis (automated traffic control, digital speed indicators, diversions, etc.)



Traffic statistics

Gather and analyze statistics for better traffic planning and policy development



Lane management

Ensure correct use of restricted lanes (e.g. buses and taxis) in cities or around airports



Detect traffic behavior

Detect when vehicles are traveling too fast or in the wrong direction and trigger warning systems



More information:

<https://www.mobotix.com/en/solutions/solution-packs/traffic>

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AI-Parking

The app monitors parking lots using perimeters (perimeter of flat geometric shapes). It can classify vehicles and identify number of free or occupied parking spaces.



Other Benefits of Make-Model-Color Identification

*The additional parameters open up new application areas. For example, when entering a shopping center, **tailored advertising** based on make of vehicle shown on digital displays. Likewise, **statistical surveys** on potential purchasing power can be generated based on the types of vehicles in the customer parking lot.*

Important: In this situation, to comply with data protection law only vehicle brand, model or color is stored, not license plate.



Parking lot Management

Convenient parking and accurate charging

With the help of apps, video technology can provide targeted support for parking management. It can classify vehicles and identify how many parking spaces are free or occupied.

- **Detects and counts** free and occupied parking spaces
- **Access control**
- Helps keep parking lots and garages **safe**

Key application areas:



Parking space occupancy

Visual display of free parking spaces (interaction with signal lights) for convenient location of available spaces



Accident tracking

Monitors and documents any accidents in the parking lot



Blocked and safe lists

Access control via blocked and safe lists (license plate, brand, model and color). Identification and access for employee vehicles, permit holders, etc.



EV charging stations

Documentation of usage and securing of EV charging stations (fault-free operation and fire prevention)



Monitor parking duration

Supports automatic payment in parking lots/parking garages by recording period between entry and exit



AI-Parking App
<https://www.mobotix.com/en/ai-parking>

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MOBOTIX S74

One Camera, Two Directions — Even during Mobile Use

*License plate recognition and MOBOTIX cameras can also be deployed in vehicles (e.g. police). With the MOBOTIX S74 camera, you can also monitor **different directions with a single camera** (e.g. entrance and exit at the same time).*



MOBOTIX S74



Effective, Versatile, Mobile

MOBOTIX solutions for optimal return on investment and flexibility

MOBOTIX video systems operate **reliably and effectively**. The combination of **premium cameras, intelligent apps** and **professional partner support** for reliable service ensure your requirements are met accurately, cost effectively and flexibly.

One Camera, Two Directions

First dual-lens license plate recognition system on the market delivers impressive performance: Allows you to monitor **both directions of travel with a single camera** and two sensors. It also identifies motorcycle license plates and monitors entry and exit at the same time. With **sensor cables up to 30 m long**, the S74 is more flexible than ever before and sets new benchmarks.

Suitable for Mobile Use

MOBOTIX cameras—also with integrated license plate recognition—**can be used in vehicles on the go**, for example in deployment documentation for emergency services or police searches. The Westchester Police Department near New York, for example, has an impressive track record of over 200 arrests and 102 recovered stolen vehicles in just one year. This is all possible with the help of a MOBOTIX system that is **80% cheaper than the classic patrol car systems** that were previously used.

Sophisticated Modularity for Greater Flexibility

When you purchase a **MOBOTIX video system**, the choice of application is unlimited. The modular hardware components used in the cameras mean they can **constantly be adapted to new requirements**. Plus, you can change apps or add more traffic features without having to replace the camera. **Not only is this more sustainable, it also saves money!**

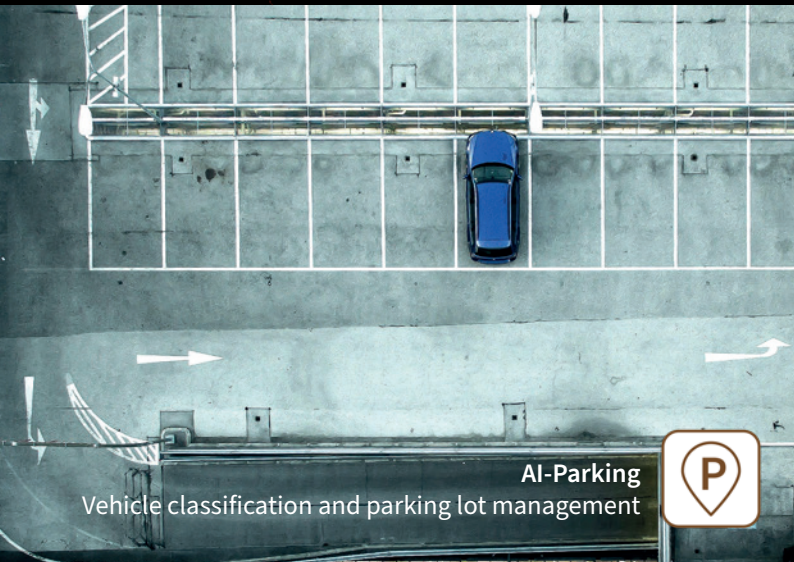


Case Study: Westchester County, NY
License plate recognition on moving vehicles

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MOBOTIX M73



AI-Parking
Vehicle classification and parking lot management



AI-Road3D
Traffic monitoring and smart cities



AI-Incident
Detects pedestrians, queues and vehicles driving in the wrong direction



License Plate Recognition
License plate recognition and access control



MOBOTIX State-of-the-Art Video Technology

Both the compact M73 and the flexible and discreet S74 deliver an impressive performance. Developed and manufactured in Germany, these high-quality MOBOTIX IoT systems guarantee **outstanding image quality, even in poor light conditions**.

Their **extreme durability** makes MOBOTIX video systems among the **most robust in the industry**. They can withstand extreme temperatures and harsh weather conditions, as well as dust and dirt. Thanks to the superior **mean time between failures (MTBF) of more than nine years**, the follow-up and maintenance costs of a MOBOTIX system are reduced to a minimum.

Practically Limitless App Technology

The functionality of the MOBOTIX 7 platform is extended even further by numerous camera apps such as high-performance license plate recognition. **The Certified Apps are professional, deep-learning applications** from reputable partners and MOBOTIX developers, which can be installed remotely on the respective cameras MOBOTIX state-of-the-art technology. They also meet the highest cyber security requirements. High modularity allows users to use exactly the apps they need in their video system to meet their requirements.

Success Is Right At Your Fingertips!

MOBOTIX provides a complete one-stop-shop traffic solution — from the camera to the corresponding video management system (MOBOTIX HUB, ManagementCenter, MOBOTIX CLOUD) to consulting and installation by partners. Becoming a MOBOTIX customer puts you straight on the road to success and to reliably achieving your goals.



Discover all our apps at:
<https://www.mobotix.com/en/mobotix-certified-apps>

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Intelligent Video Security Solutions

MOBOTIX offers a comprehensive range of solutions for all aspects of video-based security. We develop high-quality, decentralized, energy-efficient systems that save our customers money.

Our motto **Beyond Human Vision** is also our mission. MOBOTIX is fully committed to making itself the most reliable company it can be, one that protects people and property by using intelligent, cyber-secure video technology to go beyond human vision.

Solutions Made in Germany

MOBOTIX video systems feature powerful, high-quality components. Made in Germany. Assembled and put through their paces at our production site in Langmeil. Even in poor lighting conditions, our video systems deliver outstanding image quality for every application in a wide range of industries. You can depend on us!

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