



# Technical Specifications

## MOBOTIX AI-TECH Video Analytics Apps

### Cyber secure and individual applications

The extremely powerful and cyber-secure MOBOTIX 7 IoT system platform is the core of the MOBOTIX high-end camera series - the ultimate plus flexibility! MOBOTIX 7 includes Certified Apps developed on the basis of artificial intelligence and deep learning, which specifically cover numerous current industry requirements and thus open up completely new areas of application for a surveillance camera.

- All apps can be tested free of charge for 30 days
- Configuration and operation of the apps is done directly via the camera firmware
- Triggering of camera events and other actions by an app via MxMessageSystem
- Interfaces for direct integration of A.I. Tech App Events into the systems of Wavestore and Qognify Cayuga & Occularis
- Integrated web links to access A.I. Tech app documentation and training material directly from the app interface
- All apps meet the highest cyber security requirements
- Apps can be purchased and used individually or as App Bundles



BeyondHumanVision

MOBOTIX

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# Legal Notes

## Special Export Regulations!

Cameras with thermal image sensors ("thermal cameras") are subject to the special export regulations of the U.S.A. and including the ITAR (International Traffic in Arms Regulation):

- According to the currently applicable export regulations of the U.S.A. and the ITAR, cameras with thermal image sensors or parts thereof must not be exported to countries embargoed by the U.S.A., except if a special permit can be presented. At present, this applies to the following countries: Crimea region of Ukraine, Cuba, Iran, North Korea, Sudan, and Syria. The same export ban applies to all persons and institutions listed in "The Denied Persons List" (see [www.bis.doc.gov](http://www.bis.doc.gov), "Policy Guidance > Lists of Parties of Concern"; <https://www.treasury.gov/resource-center/sanctions/sdn-list/pages/default.aspx>).
- Under no circumstances must the camera itself or its thermal image sensors be used in the design, the development or in the production of nuclear, biological or chemical weapons or in the weapons themselves.

## Legal Aspects of Video and Sound Recording

You must comply with all data protection regulations for video and sound monitoring when using MOBOTIX AG products. Depending on national laws and the installation location of the AI-TECH Video Analytics App, the recording of video and sound data may be subject to special documentation or it may be prohibited. All users of MOBOTIX products are therefore required to familiarize themselves with all applicable regulations and to comply with these laws. MOBOTIX AG is not liable for any illegal use of its products.

## Declaration of Conformity

The products of MOBOTIX AG are certified according to the applicable regulations of the EC and other countries. You can find the declarations of conformity for the products of MOBOTIX AG on [www.mobotix.com](http://www.mobotix.com) under Support > Download Center > Certificates & Declarations of Conformity.

## RoHS Declaration

The products of MOBOTIX AG are in full compliance with European Unions Restrictions of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment (RoHS Directive 2011/65/EC) as far as they are subject to these regulations (for the RoHS Declaration of MOBOTIX, please see [www.mobotix.com](http://www.mobotix.com), Support > Download Center > Documentation > Brochures & Guides > Certificates).

## Disposal

Electrical and electronic products contain many valuable materials. For this reason, we recommend that you dispose of MOBOTIX products at the end of their service life in accordance with all legal requirements and regulations (or deposit these products at a municipal collection center). MOBOTIX products must not be

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## Technical Specifications MOBOTIX AI-TECH Video Analytics App

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disposed of in household waste! If the product contains a battery, please dispose of the battery separately (the corresponding product manuals contain specific directions if the product contains a battery).

### Disclaimer

MOBOTIX AG does not assume any responsibility for damages, which are the result of improper use or failure to comply to the manuals or the applicable rules and regulations. Our General Terms and Conditions apply. You can download the current version of the **General Terms and Conditions** from our website at [www.mobotix.com](http://www.mobotix.com) by clicking on the corresponding link at the bottom of every page.



# MOBOTIX AI-CROWD-DEEP

## Technical Specifications

### Avoid overfilling

The app estimates the number of people in a defined area and can also determine queue situations. It triggers a notification if a defined threshold value is exceeded. AI-CROWD-DEEP also recognizes in real time the compliance with configurable minimum distances from people (Social Distancing) and can trigger an alarm in case of non-compliance.

- Estimates the current number of people in the monitored area (indoor/outdoor)
- Detects crowded areas based on a defined threshold
- Real-time monitoring of social distancing policies
- Single payment for unlimited use
- Any number of areas can be configured by the user
- Accuracy of more than 90%, even in very crowded environments

# Technical Specifications

## Product Information

Product Name	AI-CROWD-DEEP
Order Code	Mx-APP-AI-CRO-D
Supported MOBOTIX Cameras	Mx-M73A, Mx-S74A
Minimum Camera Firmware	V7.0.6.x
MxManagementCenter Integration	min. MxMC v2.4

## Product Features

App Features	<ul style="list-style-type: none"><li>■ Estimation of number of people within a monitored area (indoor / outdoor)</li><li>■ Identification of overcrowded areas based on a defined threshold</li><li>■ Real-time Monitoring of Social Distance</li><li>■ MOBOTIX events via MxMessageSystem</li><li>■ Statistical analysis via embedded Dashboard</li><li>■ Research via MxMC Smart Data Interface</li></ul>
Meta Data / Statistic formats	JSON, CSV
Trial License	30-day trial license pre-installed
MxMessageSystem supported	Yes
Protocols / Interfaces	TCP, UDP, HTTP, FTP, MQTT Modbus/TCP, POS, E-Mail, AI-Dash Pro, Genetec Security Center, Milestone X-Protect, Hanwha Wave / Smart Security Manager, Network Optix NxWitness, Qognify Cayuga / Occularis, Wavestore VMS, Generic third-party VMS through customizable CGI calls, compare supported camera's interfaces
MOBOTIX Events	Yes
ONVIF Events	Yes (Generic Message Events)

### Scene requirements

Minimum height of a person	30px@VGA (1/10 of the image height)
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Recommended camera installation position	wall mounted
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Recommended camera installation height	3 - 8m (depending on min. height of a person)
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Maximum vertical angle to the object	30°
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### Technical data

Synchronous / asynchronous app	synchronous
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Accuracy	90%
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Processed number of frames per second	typ. 2 fps
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# MOBOTIX AI-CROWD-PLUS

## Technical Specifications

### AI-CROWD and AI-OVERCROWD as App Bundle

The App-Bundle with the two single apps AI-CROWD and AI-OVERCROWD can be used in areas where large crowding situations occur and where people are standing or moving slowly. Queuing situations are also recognized in this way. The apps identify one or more areas in the image where the number of people is above a user defined threshold.

- Subject to license, single payment for unlimited use
- Any number of monitoring zones can be defined
- The apps can be used indoors and outdoors
- The apps achieve an accuracy of over 90%, even in very crowded environments

# Technical Specifications

## Product Information

Product Name	AI-CROWD-PLUS
Order Code	Mx-APP-AI-CROP
Supported MOBOTIX Cameras	Mx-M73A, Mx-S74A
Minimum Camera Firmware	V7.0.6.x
MxManagementCenter Integration	min. MxMC v2.4

## Product Features

App Features	<ul style="list-style-type: none"><li>■ Estimation of number of people within a monitored area (indoor / outdoor)</li><li>■ Identification of overcrowded areas based on a defined threshold</li><li>■ MOBOTIX events via MxMessageSystem</li><li>■ Statistical analysis via embedded Dashboard</li><li>■ Research via MxMC Smart Data Interface</li></ul>
Meta Data / Statistic formats	JSON, CSV
Trial License	30-day trial license pre-installed
MxMessageSystem supported	Yes
Protocols / Interfaces	TCP, UDP, HTTP, FTP, MQTT Modbus/TCP, POS, E-Mail, AI-Dash Pro, Genetec Security Center, Milestone X-Protect, Hanwha Wave / Smart Security Manager, Network Optix NxWitness, Qognify Cayuga / Occularis, Wavestore VMS, Generic third-party VMS through customizable CGI calls, compare supported camera's interfaces
MOBOTIX Events	Yes
ONVIF Events	Yes (Generic Message Events)

### Scene requirements

Minimum object size	area of min. 200 pixels
Recommended camera installation position	ceiling mounted / overhead
Recommended camera installation height	3m - 5m (as high as possible)
Maximum vertical angle to the object	+/- 20°
maximum horizontal angle to the object	+/- 20°

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### Technical data

Synchronous / asynchronous app	synchronous
Accuracy	90%
Processed number of frames per second	typ. 15 fps

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# MOBOTIX AI-FACEDETECT-DEEP

## Technical Specifications

### Checking face masks & counting people

The video analysis application recognizes human faces in a defined area. AI-FACEDETECT-DEEP can detect both masked and unmasked faces. The app generates an event for a follow-up action when a mask is worn or not, depending on the customer's specific requirements.

The app can also be used to determine the number of people within an area based on the faces captured. AI-FACEDETECT-DEEP is based on artificial intelligence and uses deep neural networks for both face recognition and face classification.

- People counting based on face recognition
- Mask recognition (persons wearing / not wearing a mask)
- Subject to license, single payment for unlimited use
- The app can be used both indoors and outdoors

# Technical Specifications

## Product Information

Product Name	AI-FACEDETECT-DEEP
Order Code	Mx-APP-AI-FD-D
Supported MOBOTIX Cameras	Mx-M73A, Mx-S74A
Minimum Camera Firmware	V7.0.6.x
MxManagementCenter Integration	min. MxMC v2.4

## Product Features

App Features	<ul style="list-style-type: none"><li>■ Detection of faces within the live stream</li><li>■ People counting based on face detection</li><li>■ Detection of persons wearing masks / not wearing masks (e.g. mouth-nose-protection)</li><li>■ MOBOTIX events via MxMessageSystem</li><li>■ Statistical analysis via embedded Dashboard</li><li>■ Research via MxMC Smart Data Interface</li></ul>
Meta Data / Statistic formats	JSON, CSV
Trial License	30-day trial license pre-installed
MxMessageSystem supported	Yes
Protocols / Interfaces	TCP, UDP, HTTP, FTP, MQTT Modbus/TCP, POS, E-Mail, AI-Dash Pro, Genetec Security Center, Milestone X-Protect, Hanwha Wave / Smart Security Manager, Network Optix NxWitness, Qognify Cayuga / Occularis, Wavestore VMS, Generic third-party VMS through customizable CGI calls, compare supported camera's interfaces
MOBOTIX Events	Yes
ONVIF Events	Yes (Generic Message Events)

Scene requirements

Minimum object size	30x30 px
Recommended camera installation position	wall-mounted, frontally to the face
Recommended camera installation height	1,80 m

Technical data

Synchronous / asynchronous app	synchronous
Accuracy	90%
Processed number of frames per second	typ. 5 fps
Detection time	typ. 200 ms





# MOBOTIX AI-INTRUSION-DEEP

## Technical Specifications

### Detection of persons and vehicles crossing virtual lines

The AI-INTRUSION-DEEP app detects persons and vehicles crossing virtual lines and entering prohibited areas. An unlimited number of virtual tripwires and high accuracy guarantee the greatest flexibility of your surveillance scenarios. If required it triggers a notification in real time. Detection events can be researched via an embedded MxManagementCenter.

- Detection of persons / vehicles crossing virtual lines and entering prohibited areas
- Intrusion detection distinguishes between objects such as people, vehicles or animals
- Can be used indoors and outdoors
- Unlimited amount of virtual lines and prohibited areas
- Object detection and classification based on deep learning
- MOBOTIX events via MxMessageSystem

# Technical Specifications

## Product Information

Product Name	AI-INTRUSION-DEEP
Order Code	Mx-APP-AI-INT-D
Supported MOBOTIX Cameras	Mx-M73A, Mx-S74A
Minimum Camera Firmware	V7.1.3.15
MxManagementCenter Integration	min. MxMC v2.4.4 Configuration: Advanced Config license required

## Product Features

App Features	<ul style="list-style-type: none"><li>■ Detection of persons / vehicles crossing virtual lines and entering prohibited areas</li><li>■ Intrusion detection distinguishes between objects such as people, vehicles or animals</li><li>■ Can be used indoors and outdoors</li><li>■ Unlimited amount of virtual lines and prohibited areas</li><li>■ Object detection and classification based on deep learning</li><li>■ MOBOTIX events via MxMessageSystem</li><li>■ Research via embedded Dashboard and MxManagementCenter</li></ul>
Meta Data / Statistic formats	JSON, customized
Trial License	30-day trial license pre-installed
MxMessageSystem supported	Yes
Protocols / Interfaces	TCP, UDP, HTTP, FTP, MQTT Modbus/TCP, POS, E-Mail, AI-Dash Pro, Genetec Security Center, Milestone X-Protect, Hanwha Wave / Smart Security Manager, Network Optix NxWitness, Qognify Cayuga / Occularis, Wavestore VMS, Generic third-party VMS through customizable CGI calls, compare supported camera's interfaces
MOBOTIX Events	Yes
ONVIF Events	Yes (Generic Message Events)

### Scene requirements

30px@VGA (1/10 of the image height)	30px@VGA (1/10 of the image height)
Recommended camera installation position	wall-mounted
Recommended camera installation height	3m - 8m (depending on min. person height)
Maximum vertical angle to the object	30°

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### Technical data

Synchronous / asynchronous app	synchronous
Accuracy	90%
Processed number of frames per second	typ. 5 fps

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