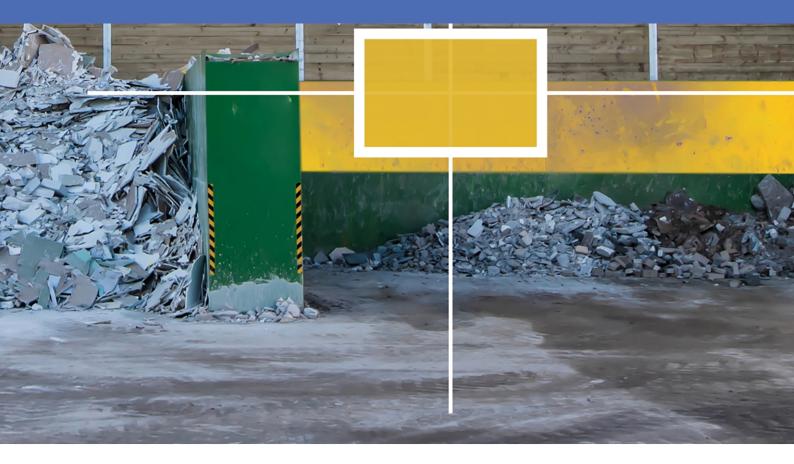
# Guideline

## **MOBOTIX Color Recognition App**

© 2022 MOBOTIX AG



MOBOTIX

Beyond Human Vision

# **Table of Contents**

Table of Contents	2
Before You Start	3
Support	4
Safety Notes	4
Legal Notes	5
About MOBOTIX Color Recognition App	6
Smart Data Interface to MxManagementCenter	6
Technical Specifications	8
Licensing Certified Apps	10
License Activation of Certified Apps in MxManagementCenter	10
Managing Licenses in MxManagementCenter	14
Activation of the Certified App Interface	17
Configuration of MOBOTIX Color Recognition App	19
Detection Settings	20
Debug settings	21
MxMessageSystem	. 23
What is MxMessageSystem?	23
Facts about MxMessages	23
MxMessageSystem: Processing the automatically generated app event	24
Checking automatically generated app events	24
Action handling - Configuration of an action group	25
Action settings - Configuration of the camera recordings	
MxMessageSystem: Processing the meta data transmitted by apps	30
Meta data transferred within the MxMessageSystem	30
Creating a Custom Message Event	31
Examples for message names and filter values of the MOBOTIX Color Recognition App	32

# 1

# **Before You Start**

Support	4
Safety Notes	4
Legal Notes	5

# Support

If you need technical support, please contact your MOBOTIX dealer. If your dealer cannot help you, he will contact the support channel to get an answer for you as quickly as possible.

If you have internet access, you can open the MOBOTIX help desk to find additional information and software updates. Please visit:

www.mobotix.com > Support > Help Desk



# Safety Notes

- This product must not be used in locations exposed to the dangers of explosion.
- Do not use this product in a dusty environment.
- Protect this product from moisture or water entering the housing.
- Install this product as outlined in this document. A faulty installation can damage the product!
- This equipment is not suitable for use in locations where children are likely to be present.
- When using a Class I adapter, the power cord shall be connected to a socket-outlet with proper ground connection.
- To comply with the requirements of EN 50130-4 regarding the power supply of alarm systems for 24/7 operation, it is highly recommended to use an uninterruptible power supply (UPS) for backing up the power supply of this product.
- This equipment is to be connected only to PoE networks without routing to other networks.

**NOTE!** Observe the MOBOTIX MOVE Installation Hints document to ensure optimum performance of the camera features.

## **Legal Notes**

#### 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 cameras, 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 under **Support > Download Center > Marketing & Documentation > 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, **Support > Download Center > Marketing & 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 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 by clicking on the corresponding link at the bottom of every page.

# **About MOBOTIX Color Recognition App**

#### **Intelligent Color Recognition**

The app's artificial intelligence-based algorithms simply detects colors in various scenes and environments.

- Detection of user-specified color values within customized detection areas.
- Definition of up to 20 detection areas within the camera's field of view.
- Supports the recognition of all RGB color values.
- Set sensitivity, required percentage within the defined detection area and duration of the associated condition.
- Can be used with all cameras of the MOBOTIX 7 system platform.

#### Best suited for the requirements of the following industries:

Utilities, Energy & Mining; Industry & Production, Government, Traffic & Transportation, Retail, Healthcare, Education & Science.

**CAUTION!** Thermal sensors are not supported by this app.

## Smart Data Interface to MxManagementCenter

This app has a Smart Data interface to MxManagementCenter.

With the MOBOTIX Smart Data System, transaction data can be linked to the video recordings made at the time of the transactions. Smart Data source can be e.g. MOBOTIX Certified Apps (no license required) or general Smart Data sources (license required) like POS systems or license plate recognition systems.

The Smart Data System in MxManagementCenter enables you to quickly find and review any suspicious activities. The Smart Data Bar and the Smart Data View are available for searching and analyzing transactions. The Smart Data Bar provides a direct overview of the most recent transactions (from the last 24 hours) and for this reason it is convenient to use it for reviews and searches.

**NOTE!** For information on how to use the Smart Data System, see the corresponding online help of the camera software and MxManagementCenter.

#### About MOBOTIX Color Recognition App Smart Data Interface to MxManagementCenter

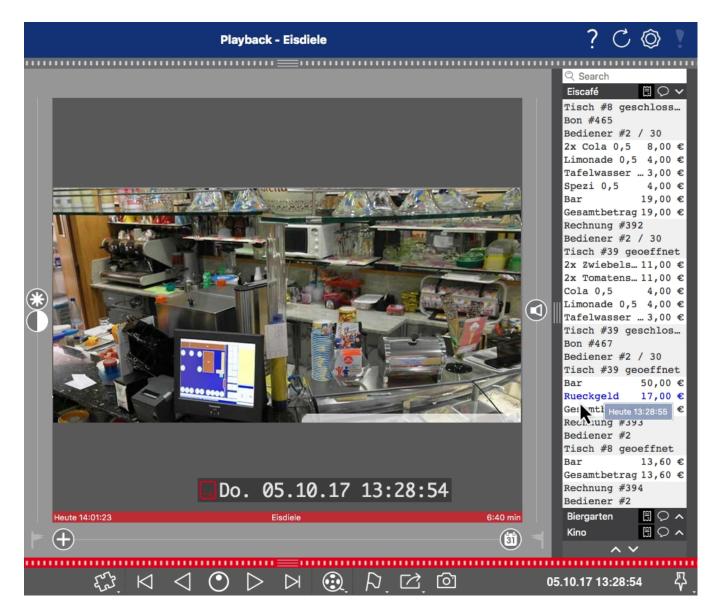


Fig. 1: : Smart Data Bar in MxManagementCenter (Example: POS System)

# **Technical Specifications**

## **Product Information**

Product Name	MOBOTIX Color Recognition App
Order Code	Mx-APP-MX-COR
Supported MOBOTIX Cam- eras	M73, S74, D71
Minimum Camera Firmware	v7.3.1.x
MxManagementCenter com- patibility	<ul> <li>min. MxMC v2.5</li> <li>Configuration: Advanced Config license required</li> <li>Event Search: Smart Data Interface license included</li> </ul>

App Features	<ul> <li>Detection of user-specified color values within customized detection areas</li> <li>Definition of up to 20 detection areas within the camera's field of view</li> <li>Supports the recognition of all RGB color values</li> <li>Set sensitivity, required percentage within the defined detection area and duration of the associated condition</li> <li>MOBOTIX events via MxMessageSystem</li> </ul>
Maximum number of recog- nition areas	20
Supported image sensor types	Day, Night, Day/Night
Dual / Multi Sensor usage	Yes
MxMessageSystem sup- ported	Yes
MOBOTIX Events	Yes
ONVIF Events	Yes (Generic Message event)

## **Product Features**

## Hardware / Scene Requirements

the color recognition is detecting any color value in the field of view of the camera or a customized detection area and thus it is not depending on installation or hardware requirements

Minimum area percentage 1% of the image resolution

## **Technical App Specifications**

Synchronous / Asynchronous App asynchronous

Processed frame rate

typ. 10 fps

# **Licensing Certified Apps**

The following licenses are available for the MOBOTIX Color Recognition App:

- 30-day test license pre-installed
- permanent commercial license

The usage period begins with activation of the app interface (see )

**NOTE!** For buying or renewing a license, contact your MOBOTIX Partner.

**NOTE!** Apps are usually pre-installed with the firmware. In rare cases, apps must be downloaded from the website and installed. In this case see **www.mobotix.com > Support > Download Center > Marketing & Documentation**, download and install the app.

# License Activation of Certified Apps in MxManagementCenter

After a test period commercial licenses must be activated for use with a valid license key.

### **Online-Activation**

After receiving the activation IDs, activate them in MxMC as follows:

- 1. Select from the menu Window > Camera App Licenses.
- 2. Select the camera on which you want to license apps and click **Select**.

• • •	Camera Licenses	
	MxManagementCenter	· ?
Cameras		
Q 10.3		×
Name	Url	Serial Number
mx10-10-38-40	10.10.38.40	10.10.38.40
mx10-22-10-30	10.22.10.30	10.22.10.30
M73 10-32-0-62	10.32.0.62	10.32.0.62
		Select
Mobotix + i	Kaiserstrasse D-67722 Langmell • Info@mobotix.com • www	.mobotix.com

Fig. 2: Overview of Camera App Licenses in MxManagementCenter

**NOTE!** If necessary, correct the time set on the camera.

1. An overview of the licenses installed on the camera may be displayed. Click Activate License.

	Camera License	S	
	MxManagemen	tCenter	?
< Camera License Sta	atus: mx10-251-1-235		Serial Number: 10.23.9.171
	Expiration	Quantity	Senar Number, 10.23.5.171
MxWheelDetector	Permanent	Unlimited	
iot_plugin_a	Permanent	Unlimited	
iot_plugin_b	Permanent	Unlimited	
iot_plugin_c	Permanent	Unlimited	
iot_plugin_d	Permanent	Unlimited	
iot_plugin_e	Permanent	Unlimited	
iot_plugin_f	Permanent	Unlimited	
iot_plugin_g	Permanent	Unlimited	
iot_plugin_h	Permanent	Unlimited	
iot_plugin_i	Permanent	Unlimited	
Camera time is incorr	ect. Please reset your camera time before activating	licenses	
	eet rease reset your carriera time before activating		
			Activate License
	Mobotix • Kaiserstrasse D-67722 Langmeii • info@n	nobotix.com + www.mobotix.com	

Fig. 3: Overview of the licenses installed on the camera

**NOTE!** If necessary, correct the time set on the camera.

- 2. Enter a valid Activation ID and specify the number of licenses to install on this computer.
- 3. If you want to license another product, click on . In the new row, enter the appropriate Activation ID and the number of licenses you want.

#### Licensing Certified Apps License Activation of Certified Apps in MxManagementCenter

- 4. To remove a line click
- 5. When you have entered all Activation IDs, click **Activate License Online**. During activation, **MxMC** connects to the license server. This requires an Internet connection.

	Camera Licenses	
	MxManagementCenter	?
< Activate Camera	Licenses: M73 10-32-0-62	Serial Number: 10.32.0.62
via Activation ID Please enter your Activation IDs a we23-4c5f-as23-4bf2-b872-6	nd for each Activation ID the corresponding quantity of licenses that you want to use	
ec90-4c5f-cfd0-4bf2-b872-9		
Download Capability Request F	ile) (Activate License Online)	
Via Capability Response If you have already created or recei Load Capability Response File	ved a capability response file ( <deviceid>.bin), you can load it here.</deviceid>	
	Mobotix • Kaiserstrasse D-67722 Langmeli • info@mobotix.com • www.mobotix.com	

#### Fig. 4: Adding licenses

#### Successful activation

After successful activation, a new log in is required to apply the changes. Alternatively, you can return to license management.

#### Failed activation (missing internet connection)

If the license server cannot be reached, e.g. due to a missing internet connection, apps can also be activated offline. (see Offline Activation, p. 12).

#### **Offline Activation**

For offline activation, the partner/installer from whom you purchased the licenses can generate a capability response (.bin file) on the license server to activate their licenses.

- 1. Select from the menu Window > Camera App Licenses.
- 2. Select the camera on which you want to license apps and click **Select**.

•••	Camera Licenses	
	MxManagementCenter	?
Cameras		
ି 10.3		×
Name	Url	Serial Number
mx10-10-38-40	10.10.38.40	10.10.38.40
mx10-22-10-30	10.22.10.30	10.22.10.30
M73 10-32-0-62	10.32.0.62	10.32.0.62
		Select
Mobotix + H	Kaiserstrasse D-67722 Langmell • info@mobotix.com • www	mobotix.com

Fig. 5: Overview of Camera App Licenses in MxManagementCenter

**NOTE!** If necessary, correct the time set on the camera.

3. An overview of the licenses installed on the camera may be displayed. Click **Activate License**.

• •	Camera License	95	
	MxManagemer	ntCenter	?
< Camera License Sta	ntus: mx10-251-1-235		Serial Number: 10.23.9.171
	Expiration	Quantity	Senar Kumber, 10.23.3.171
MxWheelDetector	Permanent	Unlimited	
iot_plugin_a	Permanent	Unlimited	
iot_plugin_b	Permanent	Unlimited	
iot_plugin_c	Permanent	Unlimited	
iot_plugin_d	Permanent	Unlimited	
iot_plugin_e	Permanent	Unlimited	
iot_plugin_f	Permanent	Unlimited	
iot_plugin_g	Permanent	Unlimited	
iot_plugin_h	Permanent	Unlimited	
iot_plugin_i	Permanent	Unlimited	
	ect. Please reset your camera time before activating	n Lieensoo	
	ect. Please reset your camera time before activating	Jucenses	
			Activate License
	Mobotix + Kaiserstrasse D-67722 Langmeil + info@	mobotix.com + www.mobotix.com	

Fig. 6: Overview of the licenses installed on the camera

**NOTE!** If necessary, correct the time set on the camera.

- 4. Enter a valid Activation ID and specify the number of licenses to install on this computer.
- 5. If you want to license another product, click on . In the new row, enter the appropriate **Activation ID** and the number of licenses you want.
- 6. If necessary, click to remove a line.
- 7. When you have entered all Activation IDs, click **Download Capability Request File (.lic)**. and send it to your partner/installer.

**NOTE!** This file allows the partner / installer from whom you purchased the licenses to generate a capability response file (.bin ) on the license server.

Camera Licenses	
MxManagementCenter	?
< Activate Camera Licenses: M73 10-32-0-62	Serial Number: 10.32.0.62
via Activation ID Please enter your Activation IDs and for each Activation ID the corresponding quantity of licenses that you want to use	
we23-4c5f-as23-4bf2-b872-9c84-e935-78de 1 +	
ec90-4c5f-cfd0-4bf2-b872-9c84-e935-6f20 1	
Download Capability Request File Activate License Online	
Via Capability Response File	
If you have already created or received a capability response file ( <deviceid>.bin), you can load it here.</deviceid>	
Mobotix • Kaiserstrasse D-67722 Langmeil • Info@mobotix.com • www.mobotix.com	

#### Fig. 7: Adding licenses

8. Click Load Capability Response File and follow the instructions.

#### Successful activation

After successful activation, a new log in is required to apply the changes. Alternatively, you can return to license management.

# Managing Licenses in MxManagementCenter

In MxManagementCenter you can comfortably manage all licenses that have been activated for a camera.

- 1. Select from the menu **Window > Camera App Licenses**.
- 2. Select the camera on which you want to license apps and click **Select**.

•••	Camera Licenses	
	MxManagementCenter	?
0		
Cameras © 10.3		×
Name	Url	Serial Number
mx10-10-38-40	10.10.38.40	10.10.38.40
mx10-22-10-30	10.22.10.30	10.22.10.30
M73 10-32-0-62	10.32.0.62	10.32.0.62
		Select
Mobotix •	Kalserstrasse D-67722 Langmeil • Info@mobotix.com • www	ı.mobotix.com

#### Fig. 8: Overview of Camera App Licenses in MxManagementCenter

An overview of the licenses installed on the camera may be displayed.

	Camera License	S		
MxManagementCenter ?				
< Camera License Sta	atus: mx10-251-1-235		Serial Number: 10.23.9.171	
	Expiration	Quantity	Sener Number: 10.23.3.171	
MxWheelDetector	Permanent	Unlimited		
iot_plugin_a	Permanent	Unlimited		
iot_plugin_b	Permanent	Unlimited		
iot_plugin_c	Permanent	Unlimited		
iot_plugin_d	Permanent	Unlimited		
iot_plugin_e	Permanent	Unlimited		
iot_plugin_f	Permanent	Unlimited		
iot_plugin_g	Permanent	Unlimited		
iot_plugin_h	Permanent	Unlimited		
iot_plugin_i	Permanent	Unlimited		
(A) Camera time is incorre	ect. Please reset your camera time before activating	J Licenses		
			Activate License	
	Mobotix • Kaiserstrasse D-67722 Langmeli • Info@	mobotix.com • www.mobotix.com		

Fig. 9: Overview of the licenses installed on the camera

**NOTE!** If necessary, correct the time set on the camera.

Column	Explanation
Name	Name of the licensed app
Expiration	the time limit of the license
Quantity	Number of licenses purchased for a product.
Serial Number	Unique identification determined by MxMC for the device used. If problems occur during licensing, please have the device ID ready.

#### Synchronize licenses with server

When the program starts, there is no automatic comparison of the licenses between the computer and the license server. Therefore, click **Update** to reload the licenses from the server.

#### Update licenses

To update temporary licenses, click **Activate Licenses**. The dialog for updating/activating licenses opens.

**NOTE!** You need administrator rights to synchronize and update licenses.

# **Activation of the Certified App Interface**

**CAUTION!** The MOBOTIX Color Recognition App does not consider obscure areas defined for the live image. Therefore there is no pixelation in obscure areas while configuring the app and during image analysis by the app.

**NOTE!** The user must have access to the setup menu (http(s)://<Camera IP address>/control). Therefore check the user rights of the camera.

 In the camera web interface, open: Setup Menu / Certified App Settings (http(s)://<Camera IP address>/control/app\_config).

MOBOTIX							
$\ominus$	M73 mx10-32-6	6-96 Ce	rtified App Se	ttings		? ()	
General Settings							
Arming	1 Active		Activate app servic	æ.			
Note: It is not re	commended to act	ivate more	than 2 apps.				
Resource monito	r 🗌 Active		Display camera act	ual load ir	live image.		
Note: High perfo	ormance impact. Us	e for testin	g purposes only.				
Custom font	Active		Use custom font fo To select or uploac <u>File.</u>			0	
App Settings							
AlTraffic	Trial	Irial available.	Please update the license.	3.0.7	Data	Delete application	
ColorRecognition Settings	2	2022-06-04 (30 days trial).	ColorRecognition	1.0.0	Data (4.0K)	Delete application	
FFLPR	Trial	Trial available.	Please update the license.	1.4.1	Data	Delete application	1
FFLPRAM	Trial	Trial available.	Please update the license.	1.4.1	Data	Delete application	
Set 3 Factory	Restore	e					

Fig. 10: Activation of Certified Apps

- 2. Under **General Settings** activate the **Arming**<sup>①</sup> of the app service.
- 3. Under App Settings check the Active option @ and click Set@ .
- 4. Click on the name of the App to be configured to open the Apps user interface.
- 5. For configuration of the App see Configuration of MOBOTIX Color Recognition App, p. 19.

Activation of the Certified App Interface Managing Licenses in MxManagementCenter

- 6. Under **General Settings** activate the **Arming**<sup>①</sup> of the app service.
- 7. Under App Settings check the Active option O and click SetG.
- 8. Click on the name of the App to be configured to open the Apps user interface.
- 9. For configuration of the App see Configuration of MOBOTIX Color Recognition App, p. 19.

# Configuration of MOBOTIX Color Recognition App

**NOTE!** The user must have access to the setup menu (http(s)://<Camera IP address>/control). Therefore check the user rights of the camera.

- In the camera web interface, open: Setup Menu / Certified App Settings (http(s)://<Camera IP address>/control/app\_config).
- 2. Click on the name of the **MOBOTIX Color Recognition App**.

The configuration window of the app appears with the following options:

# **Detection Settings**

The following configurations should be taken into account:

⊕ M7	3 mx10-32-6-96	ColorReco	gnition Setti	ngs	0 i ± =
ColorRecog	nition				
Detection					
Advanced			Allow	for more detailed col	
Detection areas	Name Storage	001		Color recognition p	orofiles.
	Active				
	Area Sensor	0	\$		
	Polygon	780 X	510		
		780 X	510		
		780 X	510		
		Edit Polygon	1		
	Plot area				
	Mode higher	han	\$		
	Threshold	10	\$		
	Color				
	Chroma tolerar	10 10	\$		
	Saturation tole	rance 10	¢		
	Brightness tole	rance 10	\$		
	₪ +				l
Set Factory	Restore Close				

Fig. 11: Detection settings

Advanced: Check to allow more detailed color selection.Detection Areas: The following modes are available:Name: Provide a meaningful name for the Detection Area.

Active: Check to activate the configured detection areas.

Area Sensor: If the camera has multiple image sensors, select the appropriate

#### Drawing a Detection Area:

- 1. Click **Edit Polygon** to switch into the live image.
- 2. In the live image click and drag a rectangular recognition area.
- 3. Drag the corner points to refine the recognition area.
- 4. In the top right corner of the live view click **Submit** to adopt the coordinates of the rectangle.
- 5. Optionally click the **bin** icon <sup>(2)</sup> to delete the recognition area.
- 6. Optionally click the **plus** icon O to define another Detection Area.

Plot Area: Check to plot detection areas of this profile

**Mode:** Select the trigger mode according to the threshold:

higher than: Select to trigger an event if the color value is higher than the specified threshold.

lower than: Select to trigger an event if the color value is lower than the specified threshold.

Threshold: Percentage of detection area that contains the defined color.

**Color:** Select the color to be detected. You can define maximum allowed deviations from the selected color in the next steps.

**Chroma tolerance:** Define in percent how far the chroma value of the detected color may deviate from that of the defined color.

**Saturation tolerance:** Define in percentage terms how far the saturation value of the detected color may deviate from that of the defined color.

**Brightness tolerance:** Define in percent how far the brightness value of the detected color may deviate from that of the defined color.

#### Adding a color definition

Click on plus icon.

#### Deleting a color definition

Click on the bin icon.

# **Debug settings**

Here you can activate some debug features.

Configuration of MOBOTIX Color Recognition App Debug settings

MOBO	ГІХ				▽ (
Θ	M73 mx10-32-6	-96 ColorReco	ognition Settings	0 i [	+ -
ColorRe	cognition				
Detection					
Debug					
Overlay			Enables plotting of marking the regior relevant color.	• •	
Set Fa	actory Restore	Close			

**Overlay:** Check to highlight the regions in the image that have the relevant color.

# **MxMessageSystem**

# What is MxMessageSystem?

MxMessageSystem is a communication system based on name oriented messages. This means that a message must have a unique name with a maximum length of 32 bytes.

Each participant can send and receive messages. MOBOTIX cameras can also forward messages within the local network. This way, MxMessages can be distributed over the entire local network (see Message Area: Global).

For example, a MOBOTIX 7 series camera can exchange a MxMessage generated by a camera app with an Mx6 camera that does not support certified MOBOTIX apps.

## **Facts about MxMessages**

- 128-bit encryption ensures privacy and security of message content.
- MxMessages can be distributed from any camera of the Mx6 and 7 series.
- The message range can be defined individually for each MxMessage.
  - Local: Camera expects a MxMessage within its own camera system (e.g. through a Certified App).
  - Global: the camera expects a MxMessage that is distributed in the local network by another MxMessage device (e.g. another camera of the 7 series equipped with a certified MOBOTIX app).
- Actions that the recipients are to perform are configured individually for each participant of the MxMessageSystem.

# MxMessageSystem: Processing the automatically generated app event

# Checking automatically generated app events

**NOTE!** After successfully activating the app (see Activation of the Certified App Interface, p. 17), a generic message event for this specific app is automatically generated in the camera.

1. Go to **Setup-Menu / Event Control / Event Overview**. In section **Message Events** the automatically generated message event profile is named after the application ① (e. g. ColorRecognition).

MOBOTIX					~)[8
Θ	D71 mx10-32-75-149	Event Overv	view	00	9 🗆
Environment Events				1	
Image Analysis Events				1	
Internal Events				1	
Message Events					8
ColorRecognition	1 MessageSystem	Inactive	Delete	Edit 🧿	
MxAnalytics	MxMessageSystem	Inactive	🗍 Delete		
ObjRec	MxMessageSystem	Inactive	Delete		
VaxOCRUIC	MxMessageSystem	Inactive	🔲 Delete		
Meta Events				1	
Signal Events				1	
Time Events				1	

Fig. 12: Example: Generic message event from MOBOTIX Color Recognition App

2. Click **Edit**<sup>②</sup> to display a selection of all configured message events.

MOBOTIX			II 🖬 🖬 🖉 💌
e		D71 mx10-32-75-149 Message Events	() t
			TCP port to listen on.
Events	Value		Explanation
ColorRecognition	Inactive Delete		8
	5	0	Event Dead Time: Time to wait [03600 s] before the event can trigger anew.
Event Sensor Type	IP Receive     MxMessageSystem		Event Sensor Type: Choose the message sensor.
Event on receiving a message f	from the MxMessageSystem.		
	ColorRecognition		Message Name: Defines an MxMessageSystem name to wait for.
	Local	÷	Message Range: There are two different ranges of message distribution: <i>Globat</i> across all cameras within the current LAN. Local: camera internal.
	No Filter	•	Filter Message Content: Optionally choose how to ignore messages containing Filter Value. Select No Filter to trigger on any message with defined Message Name.
MxAnalytics	Inactive Delete		
ObjRec	Inactive Delete		8
VaxOCRUIC	Inactive Delete		
Add new profile			
	Close		

Fig. 13: Example: Generic message event details - no filter

# Action handling - Configuration of an action group

**CAUTION!** To use events, trigger action groups or record images the general arming of the camera must be enabled (http(s)/<Camera IP address>/control/settings)

An action group defines which action(s) is (are) triggered by the MOBOTIX Color Recognition App event.

1. In the camera web interface, open: **Setup Menu / Event Control / Action Group Overview** (http (s)://<Camera IP address>/control/actions).

MOBOTIX		
⊙ D71 mx10-3	32-75-149 Action Group Overview	0 i ± =
VisualAlarm	Delete	
Arming	Events & Actions	Edit
Off		Edit
(No time table)	◆ VA	
	Delete	
ColorRecognition_Orange		
Arming	Events & Actions	Edit
Enabled	\$	Edit 2
(No time table)	\$	
Add new group		
Set Restore Close		

#### Fig. 14: Defining Action Groups

- 2. Click **Add new group** and give a meaningful name.
- 3. Click **Edit**<sup>②</sup>, to configure the group.

MOBOTIX		
$\odot$	D71 mx10-32-75-149 Action G	oup Details (9) (1)
General Settings	Value	Explanation
Action Group	ColorRecognition_Orange	Name: The name is purely informational.
	Enabled 3	Arming: Controls this action group: Enabled: activate the group. Off deactivate the group. St. group armed by signal input. CS: group armed by custom signal as defined in <u>General Event Settings</u> .
	(No time table)	Time Table: Time table for this action profile ( <u>Time Tables</u> ).
Event Selection	(Image Analysis: VM) (Image Analysis: VM2) Message: ColorRecognition Message: MxAnalytics Message: ObjRec Message: VayOCPUIC	Event Selection: Select the events which will trigger the actions below. Use [Ctrl]-Click to select more than one event. Events in parentheses need to be <u>activated</u> first.
Action Details		Action Deadtime: Time to wait [03600 s] before a new action can take place.
	Simultaneously	Action Chaining: Choose how the status of each subaction influences the execution of all others. Simultaneously. All actions are executed simultaneously. Simultaneously until first success: Simultaneous execution, but as soon as one action succeeds (i.e. has been completed or the phone is picked up), all others are terminated. Consecutively. All actions are executed in the specified order. Consecutively until first success: Consecutive execution, but as soon as one action succeeds, the following actions are not executed. Consecutively. Until first funce: Consecutive execution, but as soon as one action fails, the following actions are not executed.
Actions Add new action 5	Value	Explanation
Set Factory Resto	Close	

#### Fig. 15: Configuring an Action Group

- 4. Enable **Arming** of the Action Group.
- 5. Select your message event in the **Event Selection** list ④ . To select multiple events, hold the shift key.
- 6. Click Add new Action (5).
- 7. Select a proper action from list Action Type and Profile G .

#### MxMessageSystem: Processing the automatically generated app event Action settings - Configuration of the camera recordings

D71 mx10-32-75-149 Action Gro	up Details 💿 🛈
	Off. deactivate the group. <i>St.</i> group armed by signal input. CS: group armed by custom signal as defined in <u>General Event Settings</u> .
(No time table) 🗘	Time Table: Time table for this action profile ( <u>Time Tables</u> ).
Image Analysis: AS Y FIF: FIF-AlarmClip FTP: FTP-AlarmClip FTP: FTP-Day.Period	Event Selection: Select the events which will trigger the actions below. Use [Ctrl]-Click to select more than one event. Events in parentheses need to be <u>activated</u> first.
E-Mail: NotifyMail	Action Deadtime: Time to wait [03600 s] before a new action can take place.
E-Mail: MailWithMxPEGClip E-Mail: MailWithMxPEGClip E-Mail: MailSystemStatus24 IP Notify: MxMC-Alarm IP Notify: MxMC-Liveview IP Notify: MxMC-Gndview IP Notify: TCPMessage IP Notify: TCPMessage IP Notify: ObscureAreaOn IP Notify: ObscureAreaOn IP Notify: ObscureAreaOf Play Sound: StandardSounds Device Out: -IrLightOff Device Out: -IrLightOff	Action Chaining: Choose how the status of each subaction influences the execution of all others. Simultaneously. All actions are executed simultaneously. Simultaneously until first success: Simultaneous execution, but as soon as one action succeeds (i.e. has been completed or the phone is picked up), all others are terminated. Consecutively: All actions are executed in the specified order. Consecutively until first success: Consecutive execution, but as soon as one action succeeds, the following actions are not executed. Consecutively until first falure: Consecutive execution, but as soon as one action fails, the following actions are not executed.
Device Out: ~IrLightToggle	Explanation
FTP: FTP-Webcam \$	Action Type and Profile: Select the Action Profile to be executed.
0	Action Timeout or Duration: If this action runs longer than the time specified [03600 s], it is aborted and returns an error; 0 to deactivate. For Image Profile action, this is the duration and no error returns.
	Image Analysis: AS         Y F J F: F J F: + Fue count         FTP: FTP-AlarmClip         FTP: FTP-Archiving         FTP: FTP-Archiving         FTP: FTP-Archiving         FTP: FTP-Archiving         FAmail: AlarmMail         E-Mail: AlarmMail         E-Mail: MailWithMxPEGClip         E-Mail: MailWithMxPEGClip         E-Mail: MailWithMxPEGClip         E-Mail: MailWithMxPEGClip         E-Mail: MailWithMxMC-Alarm         IP Notify: MxMC-Alarm         IP Notify: MxMC-Chiveview         IP Notify: MxMC-Gridview         G         IP Notify: MtxMC-Gridview         IP Notify: TCPMessage         IP Notify: ObscureAreaOn         IP Notify: ObscureAreaOn         IP Notify: ObscureAreaOff         Play Sound: StandardSounds         Device Out: -IrLightOff         Device Out: -IrLightOn         Device Out: -IrLightOngele         FTP: FTP-Webcam

Fig. 16: Select Action Type- and Profile

**NOTE!** If the required action profile is not yet available, you can create a new profile in the Admin Menu sections "MxMessageSystem", "Transfer Profiles" and "Audio and VoIP Telephony".

If necessary, you can add further actions by clicking the button again. In this case, please make sure that the "action chaining" is configured correctly (e.g. at the same time).

- 8. Click on the **Set** $\bigcirc$  button at the end of the dialog box to confirm the settings.
- 9. Click on **Close**<sup>®</sup> to save your settings permanently.

# Action settings - Configuration of the camera recordings

 In the camera web interface, open: Setup Menu / Event Control / Recording (http(s)/<Camera IP address>/control/recording).

MOBOTIX			
$\odot$	D71 mx10-32-75-149	Recording	⑦ ① ቿ Ξ
General Settings	Value	Explanation	۵
Arming	Enabled 1	<ul> <li>Arm Recording:</li> <li>Controls camera recording.</li> <li>Enabled: activate recording.</li> <li>Off. deactivate recording.</li> <li>St. recording armed by signal input.</li> <li>CS: recording armed by custom signal as</li> <li>From Master. copies recording arming state</li> </ul>	
	(No time table)	Time Table Profile:     Time table profile for time-controlled rec	ording (Time Tables).
Storage Settings	Value	Explanation	
Recording (REC)	Event Recording 2	Recording Mode: Type of event and story recording. Snap Shot Recording: stores single JPEG Event Recording: stores stream files for e Continuous Recording: continuously store using MAPEG code.: Events can be record Start Recording, Retrigger Recording and	very event using MxPEG codec. ams video data to stream files ded with a higher frame rate using
	Include audio	Record Audio Data: Store audio data in stream file if available Enable and configure <u>microphone</u> .	8.
Start Recording	(Image Analysis: VM2) Message: ColorRecognition Message: MxAnalytics Message: ObjRec Message: VaxOCRUIC (Simal: SI)	Start Recording: Select the events which will start recordin Use [Ctrl]-Click to select more than one e Events in parentheses need to be activate	vent.
	Max fps	<ul> <li>Event Frame Rate: Recording speed if an event is detected, i</li> </ul>	in frames per second.
	0	Recording Time Before Event: Additional recording time before an even	it in seconds.
Set 4 ctory Resto	ore Close 5	Basardina Tima:	More

Fig. 17: Configuration of camera recording settings

- 2. Activate **Arm Recording**<sup>①</sup>.
- 3. Under **Storage Settings** / **Recording (REC)** select a **Recording mode**<sup>①</sup>. The following modes are available:
  - Snap Shot Recording
  - Event Recording
  - Continuous Recording
- 4. In list **Start recording** select the message event just created.
- 5. Click on the **Set**<sup>(4)</sup> button at the end of the dialog box to confirm the settings.
- 6. Click on **Close** to save your settings permanently.

**NOTE!** Alternatively, you can save your settings in the Admin menu under Configuration / Save current configuration to permanent memory.

# MxMessageSystem: Processing the meta data transmitted by apps

# Meta data transferred within the MxMessageSystem

For each event, the app also transfers meta data to the camera. This data is sent in the form of a JSON schema within a MxMessage.

•••	10.32.6.96/api/json/messages × +
$\leftarrow \rightarrow $ C	
🌣 Meistbesucht	🍫 👩 🍫 mobiles Login 🕀 Intranet News 🗋 MOBOTIX 🗋 MadCap 🛛 📎 🗋 Weitere Lesezeichen
JSON Rohdate	en Kopfzeilen
Speichern Kopier	en Einheitlich formatieren
{ "l { }	ocal": "ColorRecognition": { "RGB": "138,114,68", "level ": 24, "timestamp": 1652180197 }
} } }	

Fig. 18: Example: Meta data transmitted within a MxMessage of the MOBOTIX Color Recognition App

**NOTE!** To view the meta data structure of the last App event, enter the following URL in the address bar of your browser: http(s)/IPAddresseOfYourCamera/api/json/messages

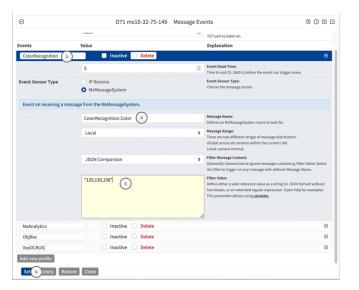
## **Creating a Custom Message Event**

1. Go to **Setup-Menu / Event Control / Event Overview**. In section **Message Events** the automatically generated message event profile is named after the application ① (e. g. ColorRecognition).

MOBOTIX				# <b>D</b> Z	V
Θ	D71 mx10-32-75-149	Event Overv	/iew	•	• =
Environment Events					
Image Analysis Events					
Internal Events					
Message Events					
ColorRecognition	MessageSystem	Inactive	O Delete	Edit 2	
MxAnalytics	MxMessageSystem	Inactive	🔘 Delete		
ObjRec	MxMessageSystem	Inactive	Delete		
VaxOCRUIC	MxMessageSystem	Inactive	🗌 Delete		
Meta Events					
Signal Events					
Time Events					

Fig. 19: Example: Generic message event from MOBOTIX Color Recognition App

2. Click **Edit**<sup>②</sup> to display a selection of all configured message events.



#### Fig. 20: Example: Black list message event

- 3. Click on the event (e. g. ColorRecognition) ③ to open the event settings.
- 4. Configure the parameters of the event profile as follows:
  - Message Name: Enter the "Message Name" according to the event documentation of the corresponding app (seeExamples for message names and filter values of the MOBOTIX Color Recognition App, p. 32)
  - Message Range:
    - Local: Default settings for the MOBOTIX Color Recognition App
    - Global: (MxMessage is forwarded from another MOBOTIX camera in the local network.

MxMessageSystem: Processing the meta data transmitted by apps Examples for message names and filter values of the MOBOTIX Color Recognition App

- Filter Message Content:
  - No Filter: Trigger on any message according to the defined Message Name.
  - **JSON Comparison:** Select if filter values are to be defined in JSON format.
  - **Regular Expression:** Select if filter values are to be defined as regular expression.

**Filter Value:** (5) seeExamples for message names and filter values of the MOBOTIX Color Recognition App, p. 32.

• **Filter Value:** ⑤ seeExamples for message names and filter values of the MOBOTIX Color Recognition App, p. 32.

**CAUTION!** "Filter Value" is used to differentiate the MxMessages of an app / bundle. Use this entry to benefit from individual event types of the apps (if available).

Choose "No Filter" if you want to use all incoming MxMessages as generic event of the related app.

2. Click on **Set** <sup>(6)</sup> at the end of the dialog box to confirm the settings.

# Examples for message names and filter values of the MOBOTIX Color Recognition App

	MxMessage-Name	Filter value
Generic Event	ColorRecognition	
Area Event	ColorRecognition.areaName.profile.m_profileName	"Area1"
Color Event	ColorRecognition.RGB	RGB color code e. g.: "120,155,99"
Level Event	ColorRecognition.level	"90"
Timestamp Event	ColorRecognition.timestamp	UNIX timestamp e. g.: "16521801970"



EN\_11/22 MOBOTIX AG • Kaiserstrasse • D-67722 Langmeil • Tel.: +49 6302 9816-103 • sales@mobotix.com • www.mobotix.com MOBOTIX is a trademark of MOBOTIX AG registered in the European Union, the U.S.A., and in other countries. Subject to change without notice. MOBOTIX do not assume any liability for technical or editorial errors or omissions contained herein. All rights reserved. © MOBOTIX