

# MADE FOR EXTREMES

MIC IP starlight 7100i  
MIC IP ultra 7100i

September 2019



# MIC IP cameras

## Extremely rugged moving cameras

Corrosion proof  
7100i: ISO 12944-6:C5-M

Superior metallurgy and finish



IK10


Withstands high-impacts

7100i models: Window defroster.  
Ensure relevant images in extremely cold environments



**NEW**

7100i models: further enhanced ruggedized design



IEC60068

Shock and vibration resistant

Closed loop gear train: never loses pan/tilt position

7100i enhanced models: new drive train that allows to follow slow moving targets even smoother



IP68

NEMA TS2

UL Type 6P

Withstands **challenging weather conditions**

# MIC IP cameras

## Highest quality of relevant images with the new 7100i models



### MIC IP starlight 7100i base models

- ▶ 1080p HD resolution with ultra-low light sensitivity 1/2" Sensor with 30x optical zoom



### MIC IP starlight 7100i enhanced model

- ▶ 1080p HD resolution with ultra-low light sensitivity 1/2" Sensor with 30x optical zoom
- ▶ in-window defroster to improve visibility
- ▶ onboard storage capabilities
- ▶ anti-backlash drive train for smoother, more accurate tracking and greater accuracy for pre-positioning.



### MIC IP ultra 7100i enhanced model

- ▶ Enhanced model, High resolution platform with UHD 1" sensor and 12X optical zoom.
- ▶ Includes optical image stabilization.

# Comparison

## MIC IP starlight 7100i vs MIC IP ultra 7100i

	MIC IP starlight 7100i MIC-7522-Z30x *	MIC IP starlight 7100i MIC-7522-Z30xR *	MIC IP ultra 7100i MIC-7504-Z12xR *
4K/8MP resolution	X	X	✓
1080p starlight resolution	✓	✓	X
12x optical zoom	X	X	✓
30x optical zoom	✓	✓	X
Anti-backlash drive train	X	✓	✓
Window defroster	X	✓	✓
Local SD storage	X	✓	✓
Electronic image stabilization	✓	✓	X
Optical image stabilization	X	X	✓

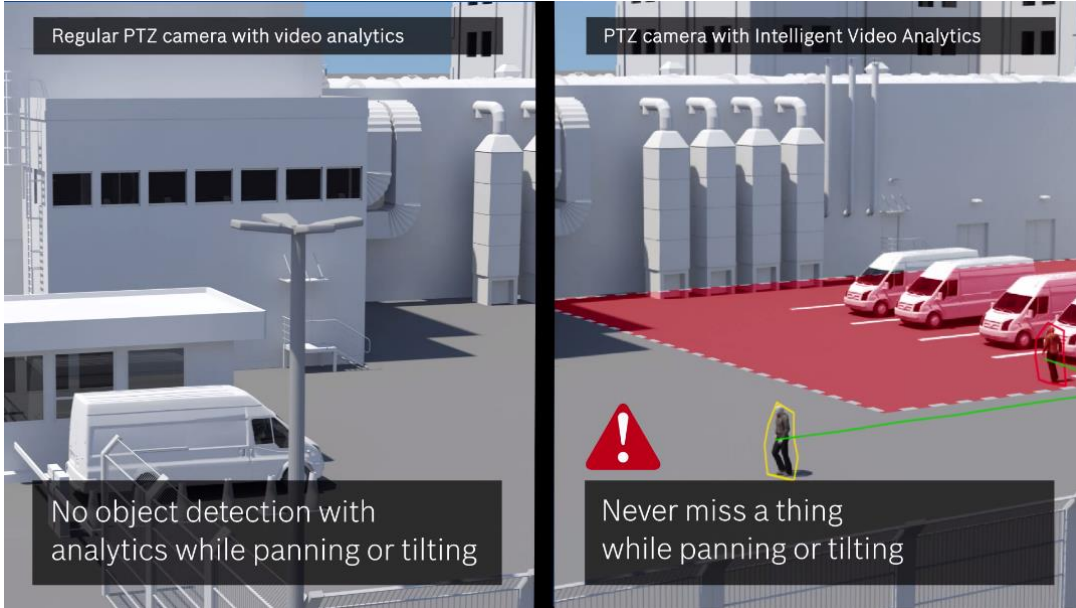


\*) "x" stands for color: Black, White or Gray; "R" stands for "enhanced" model

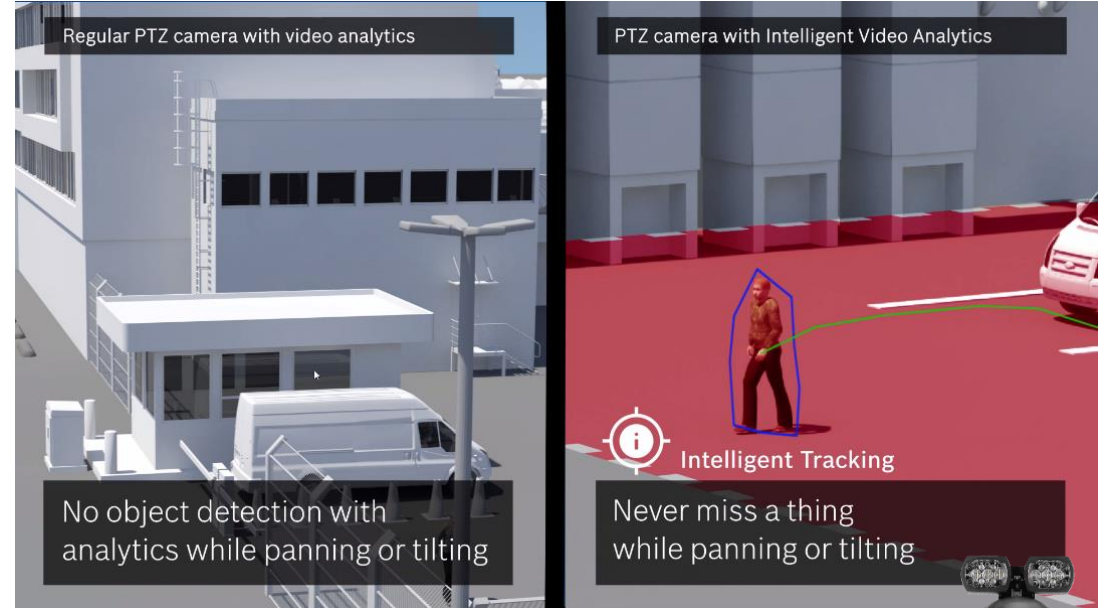
# MIC IP cameras

## Video analytics while moving

### ▶ Trigger automatic alerts when “object in field”



### ▶ Trigger Intelligent Tracking feature



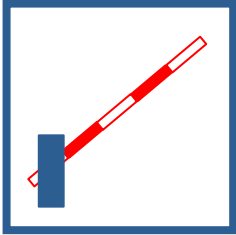
# MIC IP cameras

## Camera Trainer

With the **Camera Trainer** you can teach your camera to:



**Detect  
user-defined objects**



**Recognize  
user-defined situations**



**Find  
stationary objects**



**Separate objects  
clustered together**

Enable cameras to detect objects or situations that matter most to you.

# MIC IP cameras

## Camera Trainer

### 1: Train the camera

- ▶ Provide examples to teach camera. (Car / no car)



### 2: Start application specific detection

- ▶ Camera detects parked cars.



# MIC IP cameras

## Camera Trainer

### ► Challenge:

- I want to know if certain loading docks are free or occupied. With this business intelligence I can optimize my business processes.

### ► Solution:

- Detect free loading docks with Video Analytics by training the camera to recognize a physical mark on the ground.

### ► Benefit:

- Increase efficiencies and save costs by receiving up-to-date information about the occupancy of loading docks.





# MIC IP cameras

## Camera Trainer

Teach cameras to detect objects or situations that you previously couldn't detect.



- ▶ Improve accuracy and make Video Analytics more relevant to customer needs.



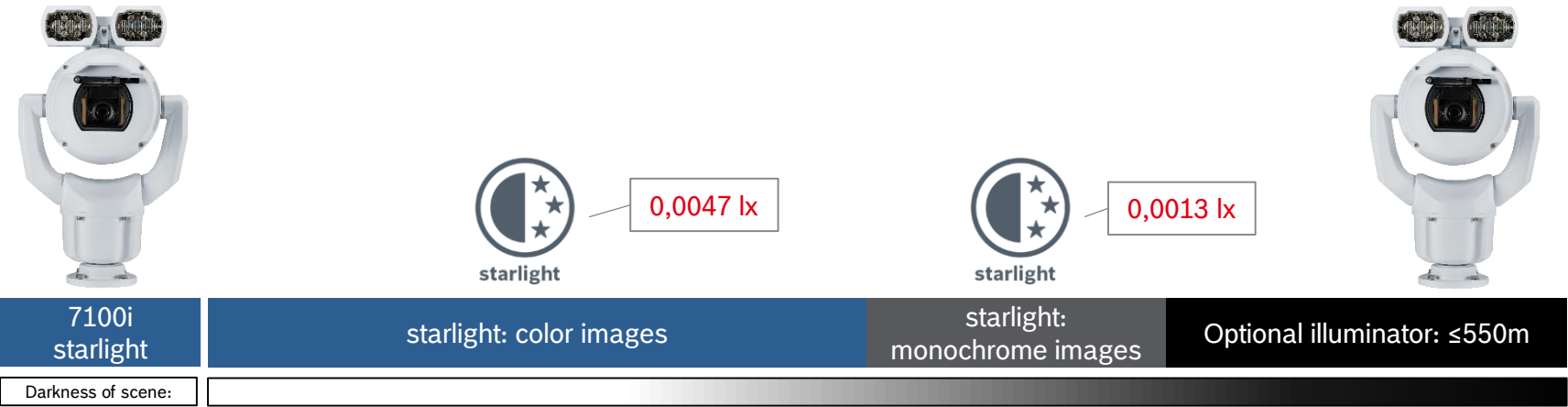
- ▶ Improve operational safety and efficiency.



- ▶ Open up new business opportunities.

# MIC IP cameras

## Highest quality of relevant images



# MIC IP cameras

## Suitable for



► Bridges



► Tunnels



► Ports/Harbors



► Critical infrastructure  
City surveillance

IEC60068

They are **shock** and **vibration** resistant

The MIC IP offers **situational awareness** inside the tunnel

They have a **superior metallurgy** and **finish**

Corrosion proof  
ISO 12944-6:C5-M

They withstand **challenging weather conditions** and **high impacts**

+65°C  
-40°C  
100%

IK10

# UNIQUE FEATURES MIC IP 7100I FAMILY

September 2019

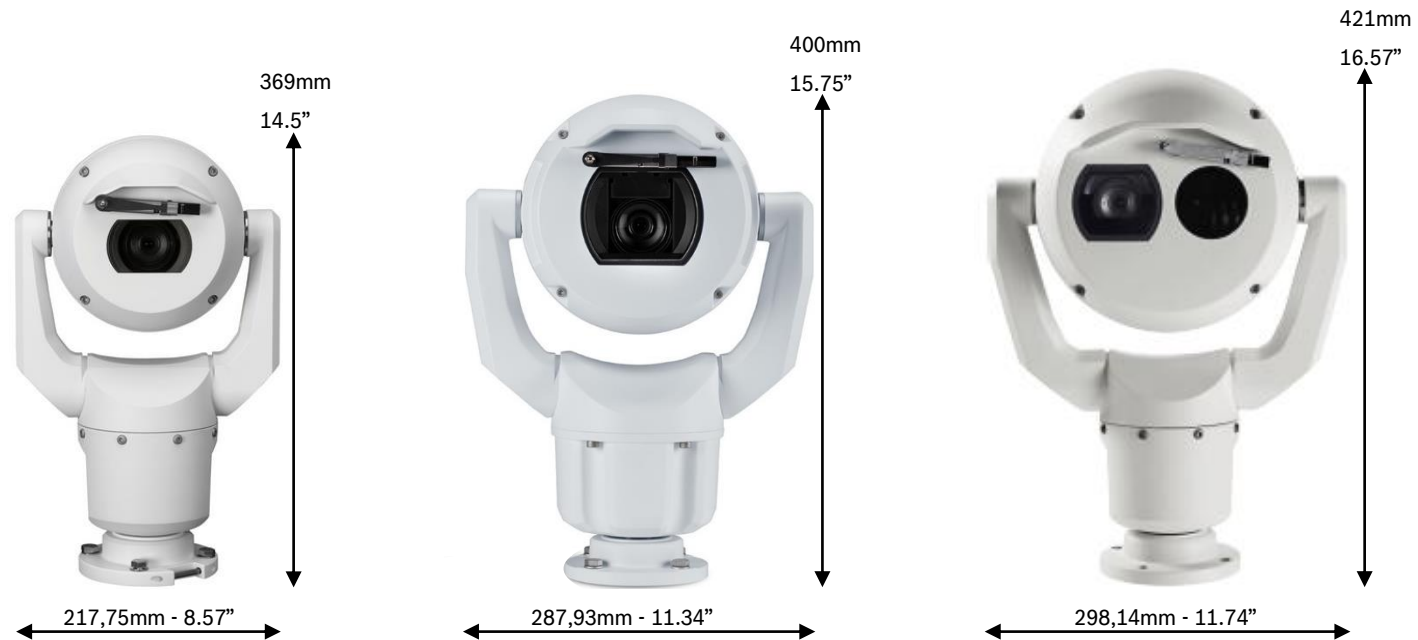


# MIC IP 7100i unique features

## Housing



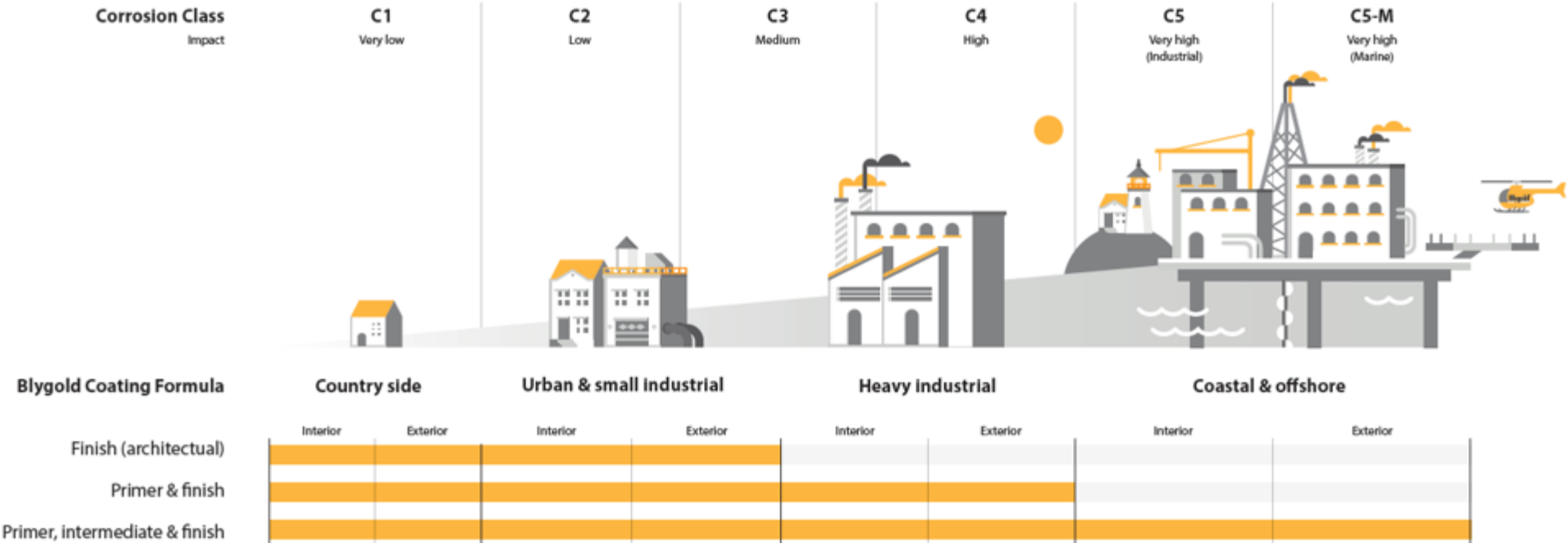
- ▶ All MIC IP 7100i cameras are anodized to further protect the camera from corrosion
- ▶ A high durability coating for environmental conditions classified as C5 M-very high corrosion resistant (marine). ASTM B-117 developed in 1939, ISO 12944-6 developed in 1998. More details on [this link](#)
- ▶ Designed to withstand 160MPH wind speeds. (Was 150MPH)



# MIC IP 7100i unique features

## Housing

### ► ISO 12944 impact levels



Source: <https://www.blygold.com/services/casing-coating/>

# MIC IP 7100i unique features



## Optical Image stabilization

- ▶ Applicable to the MIC IP ultra 7100i family only
- ▶ Mechanical Stabilization occurs between lens and sensor. Raw video stream from sensor is already stabilized. No loss of resolution or Field Of View compared to electronic stabilization
- ▶ Vibration frequency correction range between 3Hz and 20Hz

# MIC IP 7100i unique features

## Electronic vs. Mechanical / Optical Image Stabilization

### Electronic Image Stabilization



- ▶ Limited additional HW required
- ▶ Reasonable stabilization performance → cropped image + motion blur with moving objects

### Mechanical / Optical Image Stabilization



- ▶ Additional HW required
- ▶ Excellent stabilization performance → full size image, no motion blur with moving objects



# MIC IP 7100i unique features

First PTZ 4K resolution with a ruggedized housing

- ▶ Applicable to the MIC IP ultra 7100i family only
- ▶ 1” sensor for superior low noise image quality
- ▶ Wider FOV compared to 1080P (see next slide)
- ▶ Maintains high image performance with Digital Zoom (2.9x) providing comparable zoom performance as a 30X 1080P image



# MIC IP 7100i unique features

4K full optical vs 1080P full optical zoom



# MIC IP 7100i unique features

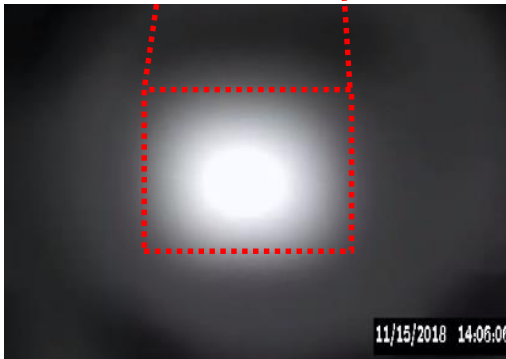
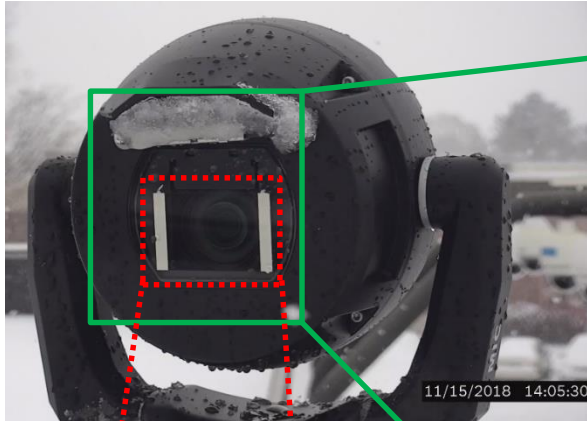
Built in automatic Window defroster



- ▶ Applicable to the MIC IP 7100i enhanced models only
- ▶ Evaporated Foil on the inside of the glass will evenly and efficiently heat the glass
- ▶ Will work automatically with outdoor temp <15C
- ▶ Four benefits:
  - ▶ Prevents ice accumulations while the camera is powered
  - ▶ One cm off accumulated ice while in power off condition will evaporate in 5 minutes
  - ▶ Prevents condensation of the inside of the glass
  - ▶ Evaporates moisture on the outside of the glass, reducing the need to frequently activating the wiper

# MIC IP 7100i unique features

MIC IP starlight 7100i with automatic Defroster



Thermal image taken with MIC IP fusion 9000i



Side close up of the glass window

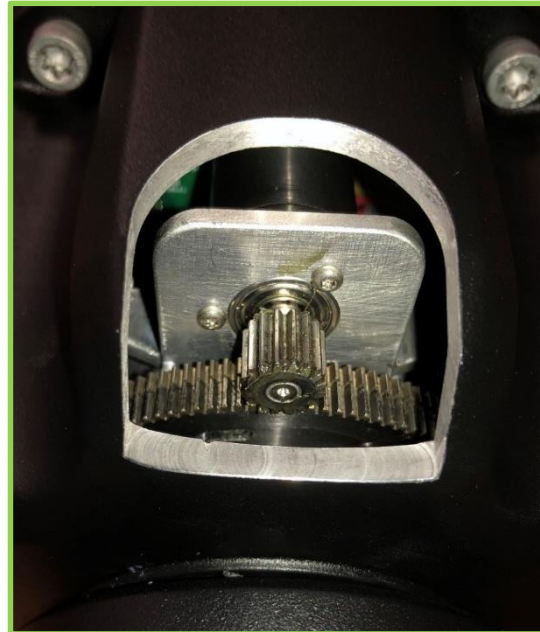
Wiper was NOT activated and water droplets are vaporized

# MIC IP 7100i unique features

## Anti-backlash gears

- ▶ Applicable to the MIC IP 7100i enhanced models only
- ▶ New rugged spring loaded gears on pan and tilt stage, reduce backlash and improves position accuracy. No play between the fixed and the moving stage. Will provide a more stable image compared to single-gear or belt-driven cameras

2 gears next to each other with built in springs on the fixed stage instead of 1 gear on non-enhanced models



Piece of housing milled away to show spring loaded gears



Second gear is positioned in the tilt stage



THANK  
YOU