

Sony Video Security 360° Hemispherical Cameras

March 2018





- 360°awareness – Enhance Your Vision
- Introduction:
 - What is a hemispherical camera
 - What are the benefits and limitations
- New model overview:
 - Form factor
 - Features & benefits



What is a Hemispherical Camera?

1. It is a camera that is designed to show the area surrounding it, with a half sphere view (hence hemispherical), also known as a panoramic camera.
2. It uses a high resolution sensor with a very wide angle lens, often called a fish-eye lens
3. It is most popularly mounted in the following ways:
 - On a ceiling or pole, looking down over an area
 - On a wall looking forwards, for example by an ATM
 - On a floor looking up, for specialist applications including under-vehicle inspection.





What is a Hemispherical Camera?

With such a wide view the main application is for situational awareness and detection rather than recognition or identification. As shown below – we can see the whole room with a single camera, so we can easily see where people and objects are, as well as track where they are moving





Benefits and Limitations

Feature	Benefit (HMX70)	Limitation
360° View Angle	Wide area coverage, good overview	Objects in the image tend to be small with low resolution (ppm) so difficult to identify
Exposure & WDR	With 92dB WDR the scene is always evenly exposed	Lighting conditions can vary over the area resulting in under or over exposed areas
Installation	A single camera has complete overview of an area, reducing installation & maintenance costs	



NEW SNC-HMX70 hemispheric 360°

360° awareness – Enhance Your Vision





SNC-HMX70

- 1/2.3" CMOS Image Sensor
- Full Situation Surveillance
- De-warping for Convenient Viewing
- 12MP @ 30 fps Records Fine Detailing
- 360° Coverage Angle
- Built-in Mic for Audio Detection, streaming + recording
- Integrated Memory Card Slot
- Discreet Design
- Designed for Simple Installation
- ONVIF Profile S Compliant
- EVA – Essential Video Analysis



Model Comparison



Description	HM662	SNC-HMX70
Sensor resolution	5MP	12MP
Max. frame rate	10fps	30fps
Client side dewarping	Yes	Yes
Edge dewarping	no	Yes (3 streams)
Video Content Analysis	Basic IMD	EVA
Noise reduction	no	iDnr
Smart Streaming	no	Yes
True Day /Night	Yes	Yes
Environment	Outdoor (IP66 / IK10)	Indoor
Edge Storage / SD slot	Yes	Yes
Audio	Yes	Yes

Key Specifications



Description	SNC-HMX70	Competitors
Sensor resolution	12MP	Max 6MP 10MP to be introduced soon
Max. frame rate	30fps	15fps at high resolution 30fps at lower resolution
Aesthetics / Size	Low profile design	Larger (diameter and/or height)
Client side dewarping	Yes	all
Edge dewarping	Yes	Some (e.g. Axis, Hikvision)
iDNR	Yes	no
Video Content Analysis	Video Analytics	Only Motion detection



Key Benefits



Amazing detail (12MP), full frame rate (30fps)

Using a state of the art, Sony Exmor sensor in combination with the latest platform the SNC-HMX70 is able to provide the best detailed and live video in the industry.

Resolution: 360° view with circle approx. 7.0 MP

Lens choice: 360° IR corrected SR lens



Key Benefits



- 180 or 360-degree coverage
 - 180-degree view, from left to right in one image covered
 - 360-degree view, from top view surround the camera in one image covered

180° view of SNC-HMX70



Ceiling installation

180° view of SNC-HMX70



Wall to wall installation

360° view of SNC-HMX70



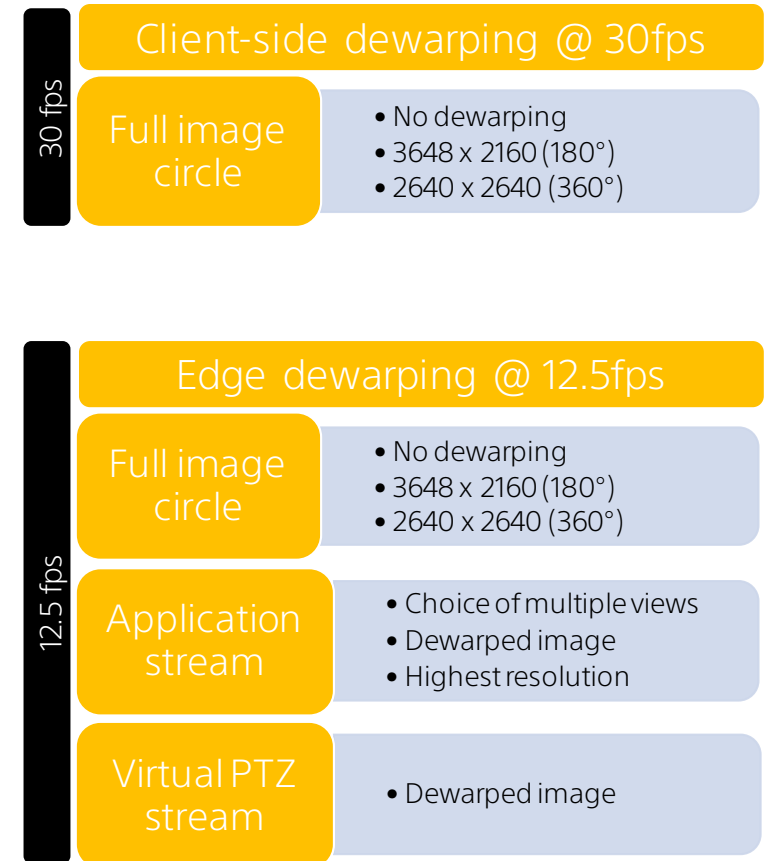


Edge or client-side dewarping for easy integration

The camera produces video as a circular shape with a scene that is optically distorted. Dewarping is a technique to transform this image into a more natural picture without distortion.

The camera provides the freedom to perform image dewarping onboard or on the client side. This is an important differentiator for system integrators.

Camera streams multiple view modes on various channels with flat video that any VMS can display



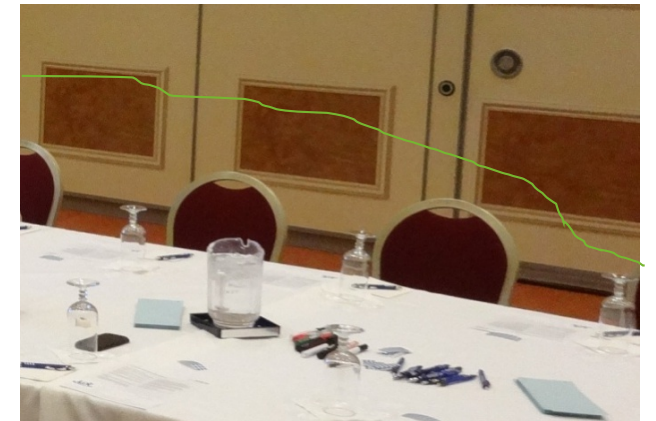
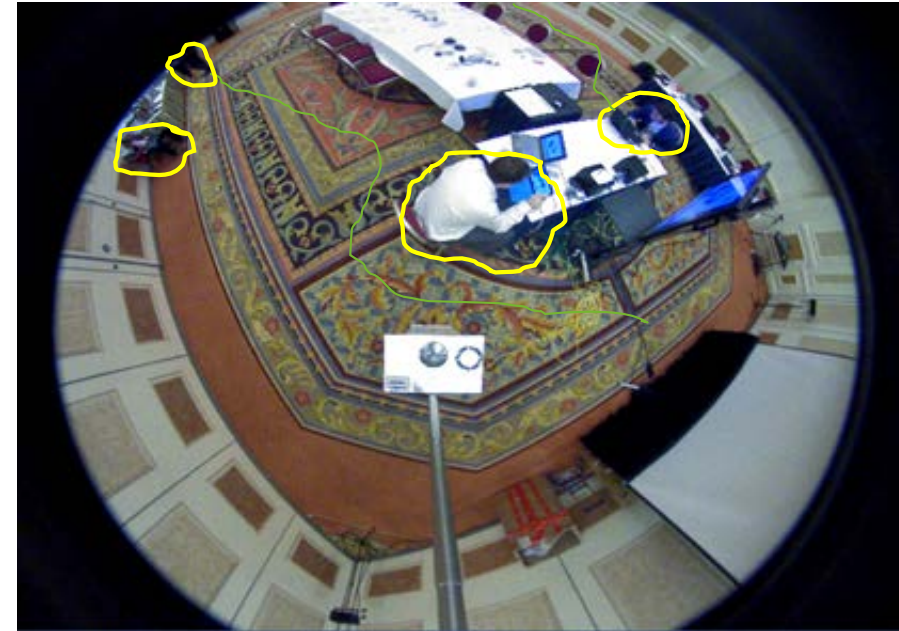
Key Benefits



Essential Video Analysis

The cameras include the Essential Video Analysis onboard to alert you when needed and helps you to quickly retrieve the relevant scene.

- **Loitering**
- **Line crossing**
- **People count**
- **Face detection**
- **Rule based alarm triggers**
- **Classification of objects**
- **Object detection sensitivity**

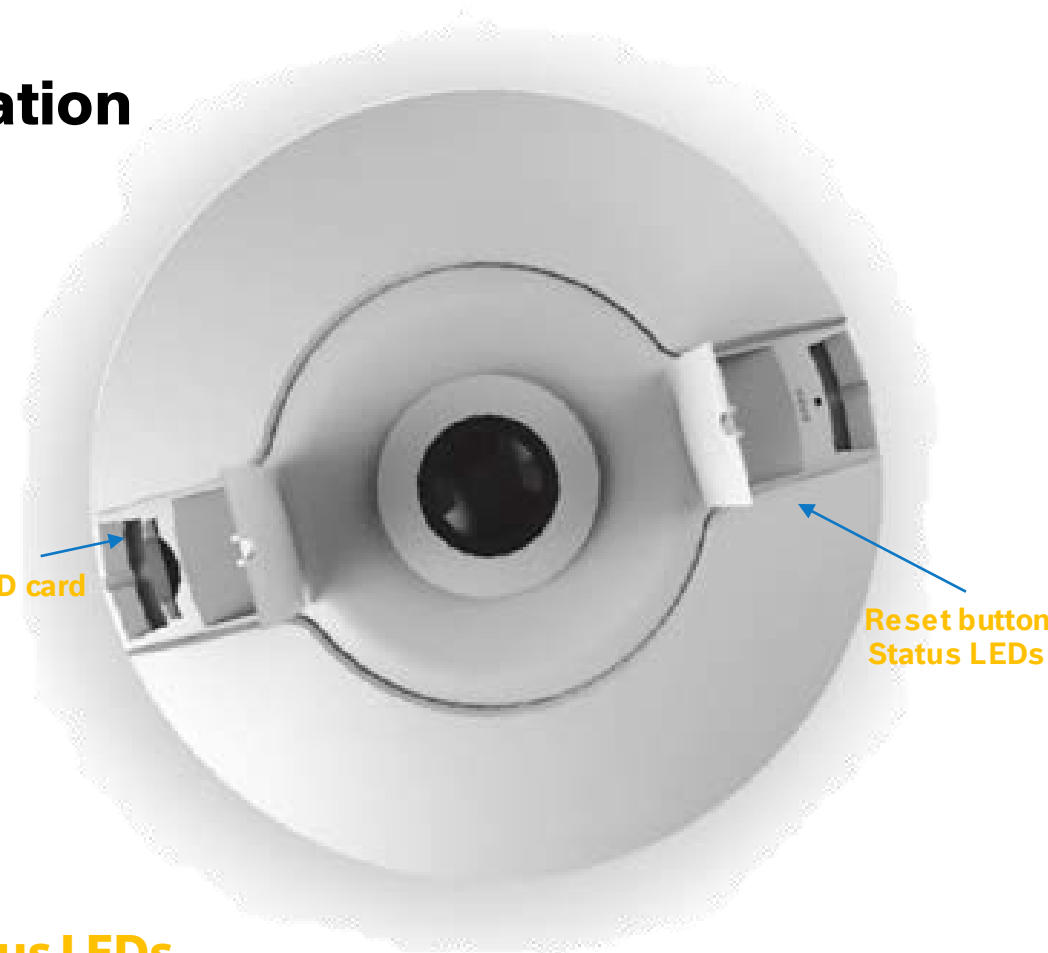




Remarkable user experience and easy installation



SD card



- **Mounting ring provided to ease installation**
- **No tools need to fix camera on this ring**
- **Two hinges to cover SD card slot, reset button and status LEDs**
- **Easy connection: PoE and integrated microphone**

Key Vertical Markets



LARGE RETAIL

"I want to monitor my entire store with a minimum of cameras"

- **Overview**
- **Customer service (180)**
- **Analytics**
- **Monitoring aisles**
- **100% surveillance coverage**
- **Easy installation**



AIRPORT

"I want to track people from entering the waiting area until boarding"

- **Crowd monitoring**
- **Border control**
- **Waiting areas**
- **Shopping**
- **Luggage Belts**
- **Analytics**



WAREHOUSE

"I want to understand what is happening everywhere and be alerted for potential illegal activities."

- **Truck loading area**
- **Packing area**
- **Stock and goods lanes**
- **360 coverage**
- **High ceilings**
- **Analytics**



CASINO

"I want to see movement between the casino tables and keep an overview of where people play"

- **Gambling tables**
- **Cash slot areas**
- **Building entry**
- **Cash change desk**



MUSEUM

"The surveillance cameras we use have to look good, since often the architect decides if we can use it"

- **Overview**
- **Flexibility of ROI**
- **Aesthetics**
- **Analytics e.g. idle object**

Sony Video Security NEW SNC-HMX70

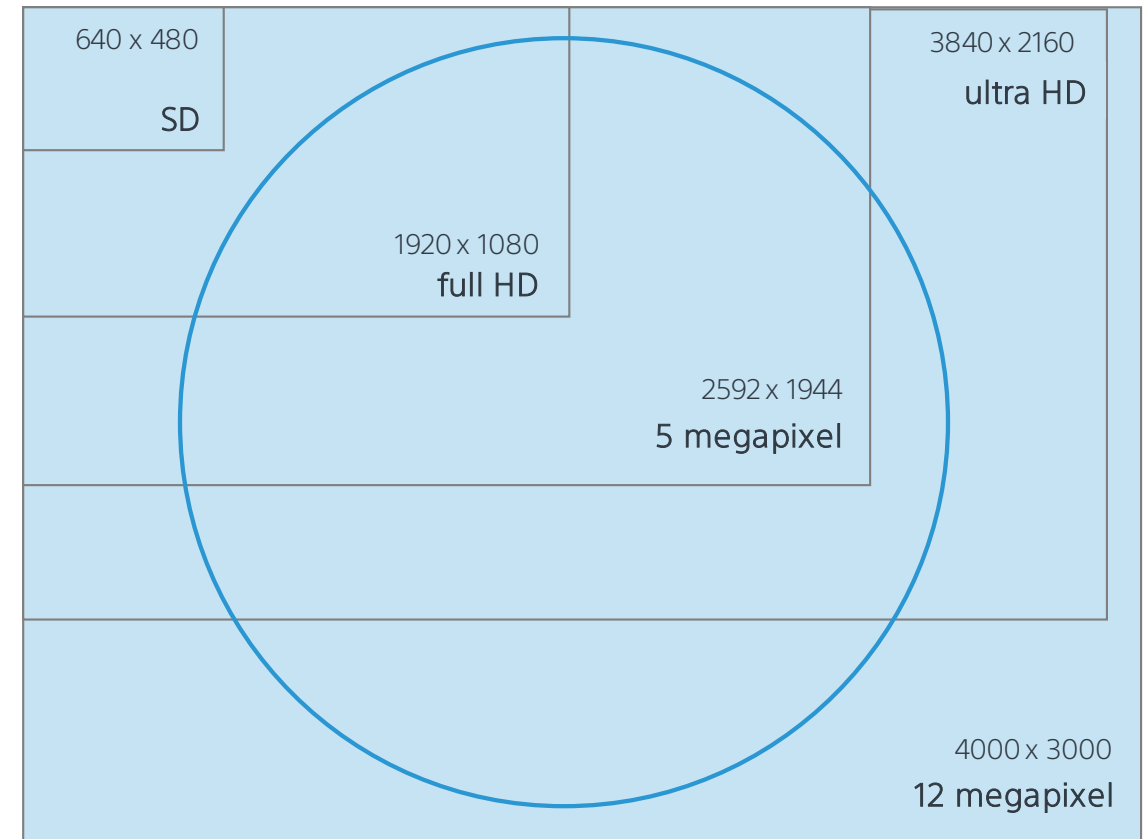
Fundamentals





Imaging Area

- 1/2.3 inch CMOS
- 12 megapixel sensor
 - Used pixels in optical circle with 360 degree 7 MP
 - Resolution 360 degree – 2640 x 2640
 - Used pixels in optical circle with 180 degree 8 MP
 - Resolution 180 degree – 3648 x 2160
- 30 frames per second
- True day / night camera (IR cut filter)





Intelligent Video Analysis (EVA)

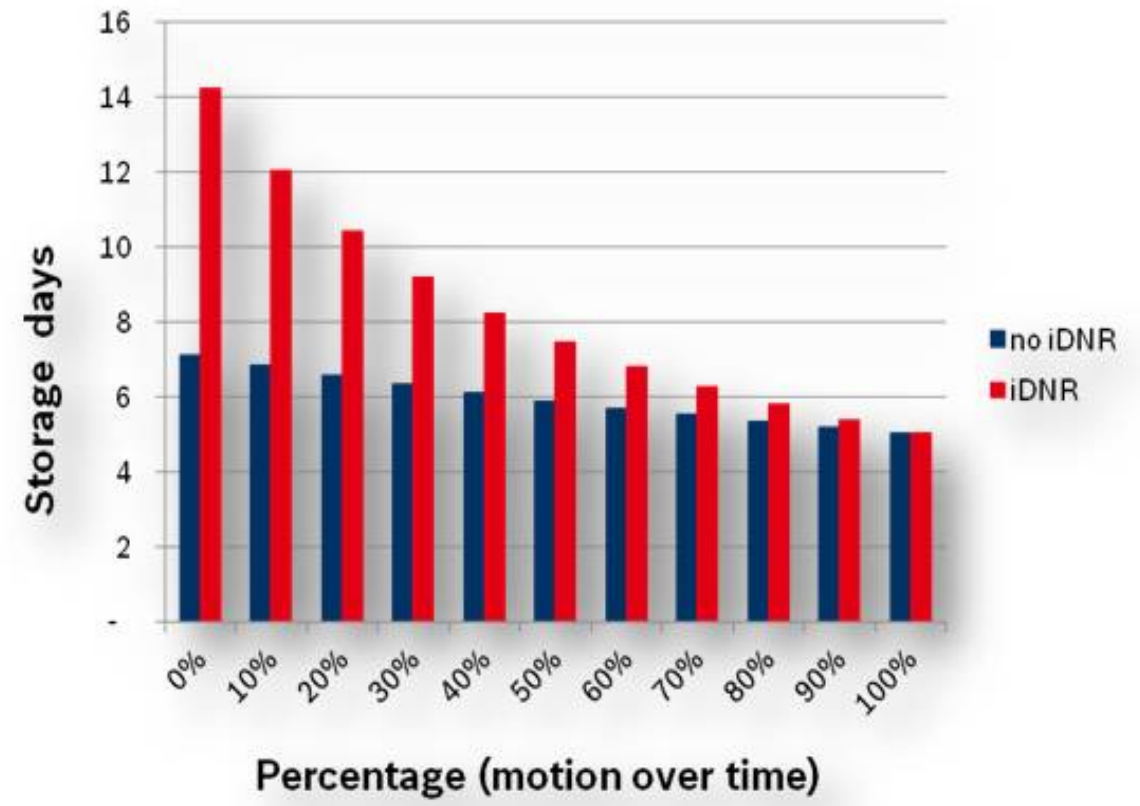
- Implemented in the SNC-HMX70
- EVA assists by alerting when predefined alarms are triggered.
 - Up to 8 EVA rules
 - Object in field
 - Crossing line
 - Etc..
 - Reduced false alarming
 - Classification of objects
 - Object detection sensitivity
 - Geolocation





Intelligent Dynamic Noise Reduction (IDNR)

- Intelligent Dynamic Noise Reduction (IDNR) is one of the features provided by CBIT technology.
- Reduce storage costs
- Reduce network strain
- Optimizes bandwidth and bit rate
- Adjusts noise reduction





Intelligent Auto Exposure (IAE)

- Automatically adjusts the exposure of the camera
- Prevent overexposed images
- EVA should be enabled





Intelligent Defog

- Automatically adjusts the contrast of the camera
- Prevent foggy or low-contrast scenes



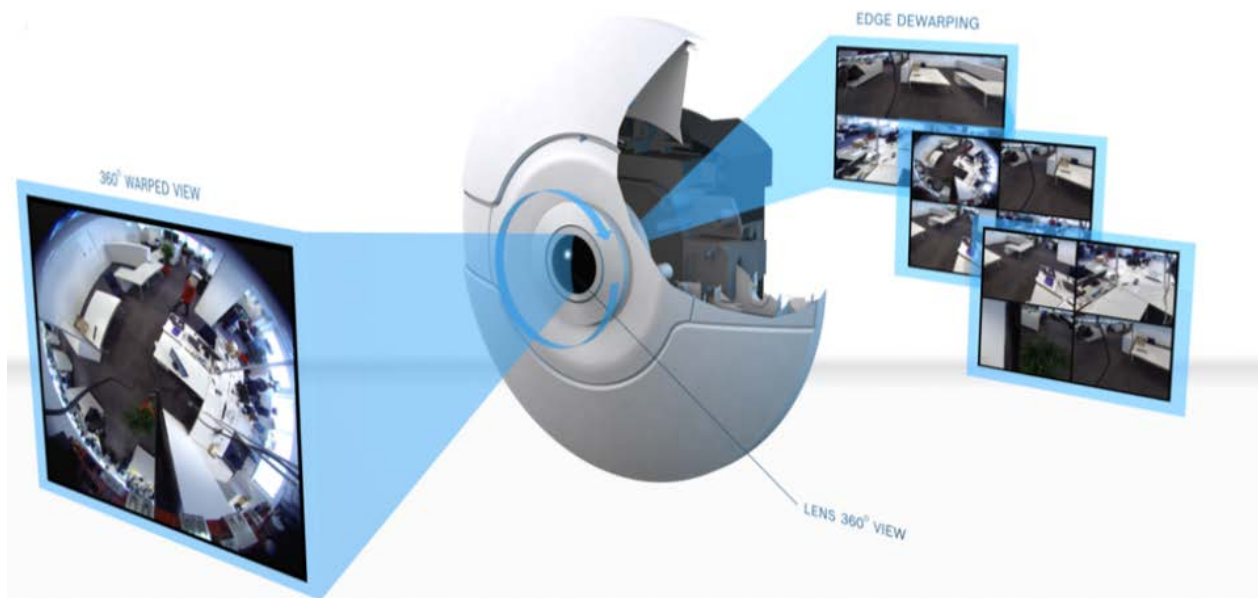
Low contrast scene – Intelligent defog off



Low contrast scene – Intelligent defog on



SNC-HMX70| Edge & client-side de-warping



Edge De-Warping

Camera streams multiple view modes on various channels with flat video that any VMS can display

Easy integration

- Multiple view modes available to fit any application
- PC or VMS is not bothered with propriety dewarping software
- Camera sends a flat video that any VMS can display just like a traditional camera

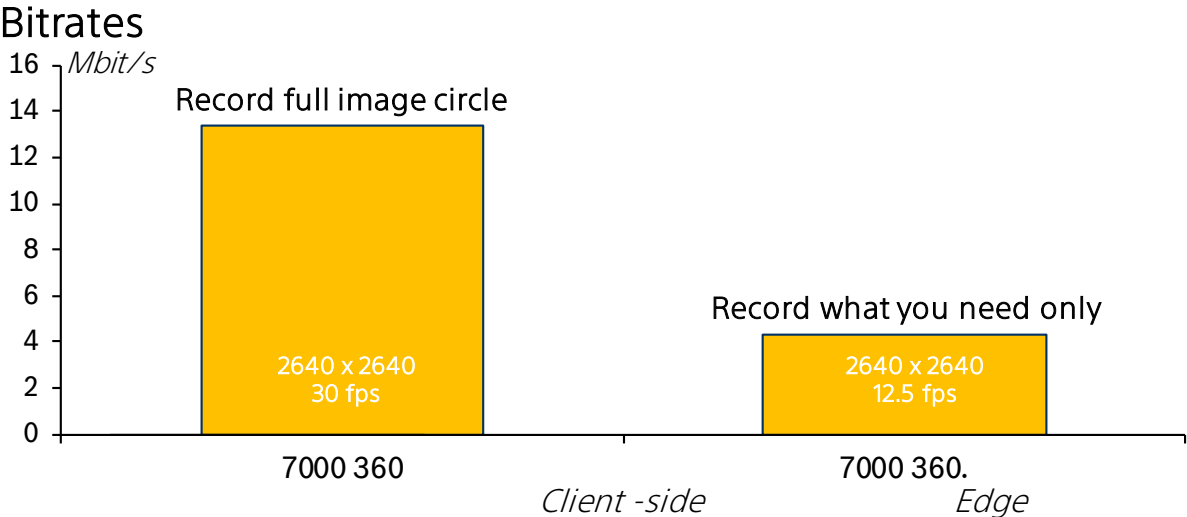
Lower bitrates

- No need to always record full image circle
- Only record the content or scene that is relevant
- No need to install VDSK

Lower hardware and network requirements

- Viewing and dewarping 12MP challenging with standard PC. Especially with multiple hemispheric cameras in system.
- Streaming 12MP challenging for slow/old networks. Usually network between cameras and storage is good, but is often challenging between Client and cameras/storage.

SNC-HMX70| Edge & client-side de-warping



30 fps	Client-side dewarping @ 30fps	
	Full image circle	<ul style="list-style-type: none">• No dewarping• 3648 x 2160 (180°)• 2640 x 2640 (360°)
12.5 fps	Full situational awareness	
	Camera streams full image circle, so nothing is lost. Client side de-warping allows e-ptz for close up view and tracking movement during live-view and playback	
	Edge dewarping @ 12.5fps	
	Full image circle	<ul style="list-style-type: none">• No dewarping• 3648 x 2160 (180°)• 2640 x 2640 (360°)
	Application stream	<ul style="list-style-type: none">• Choice of multiple views• Dewarped image• Highest resolution
	Virtual PTZ stream	<ul style="list-style-type: none">• Dewarped image

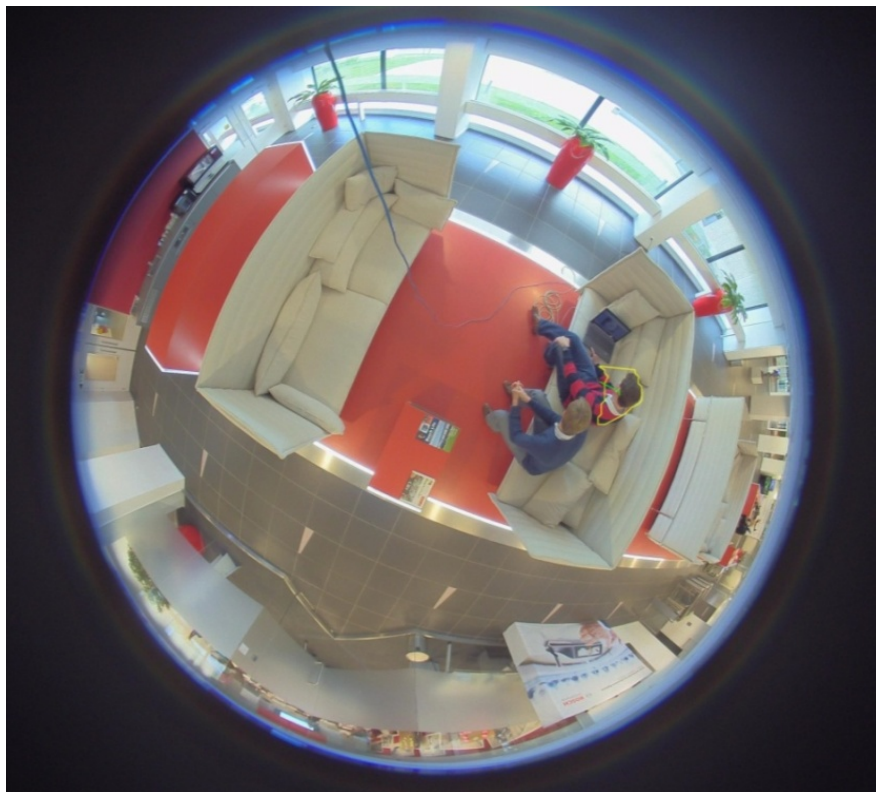
Easy integration
Camera streams multiple view modes on various channels with flat video that any VMS can display

De-warping | Multiple channels and streams



Image Circle

2640 x 2640 @12.5fps



Live access to full image circle

- Camera behaves like other Sony Cameras with 3 channels
- Streaming settings available on each channel

Application

Multiple options,
e.g. 2560x1440 @12.5fps



Flat video that any VMS can display and record

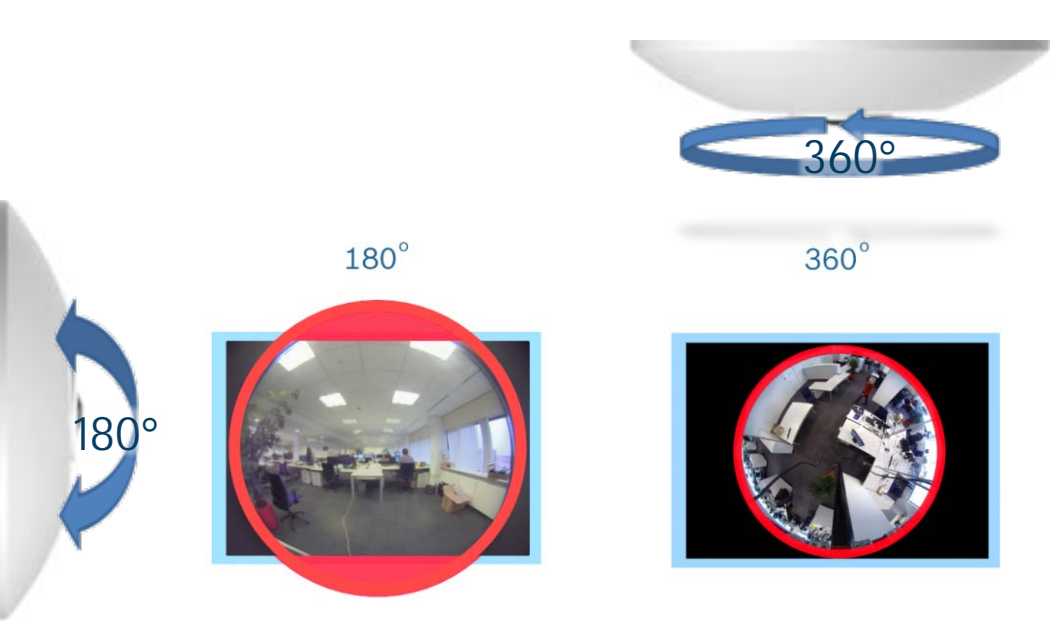
PTZ

1280x720 @12.5fps



Behaves like PTZ

De-warping | Lens variants and application view modes



Type	Application stream	Description	Resolution	Image circle	Displayed image
180°	Panorama	1x 180° dewarped hemispheric image with tilt and zoom function	3.9MP: 3648x1080		
180°	Virtual PTZ View	1x dewarped rectilinear image with PTZ function	2.1MP: 1920x1080 (16:9)		
360°	Double Panorama	2x 180° dewarped hemispheric image with tilt function	3.7MP: 2560x1440 (16:9)		
360°	Virtual PTZ View	1x dewarped rectilinear image with PTZ function	0.9MP: 1280x720 (16:9)		
360°	North South East West (NSEW)	4x 90° dewarped equirectangular projections, with 90° fixed pan function	3.7MP: 5120x720		
360°	Quad View*	4x dewarped rectilinear image with PTZ function	3.7MP: 2560x1440 (16:9)		
360°	Corridor	1x 180° dewarped hemispheric image with tilt and zoom function	2.5MP: 2640x960		



360° Full Circle

With the full circle view you can reveal all blind spots and see everything in a single image.

The image is light distorted, but with all different view modes you are able to view the surrounding area in a most natural way as possible.

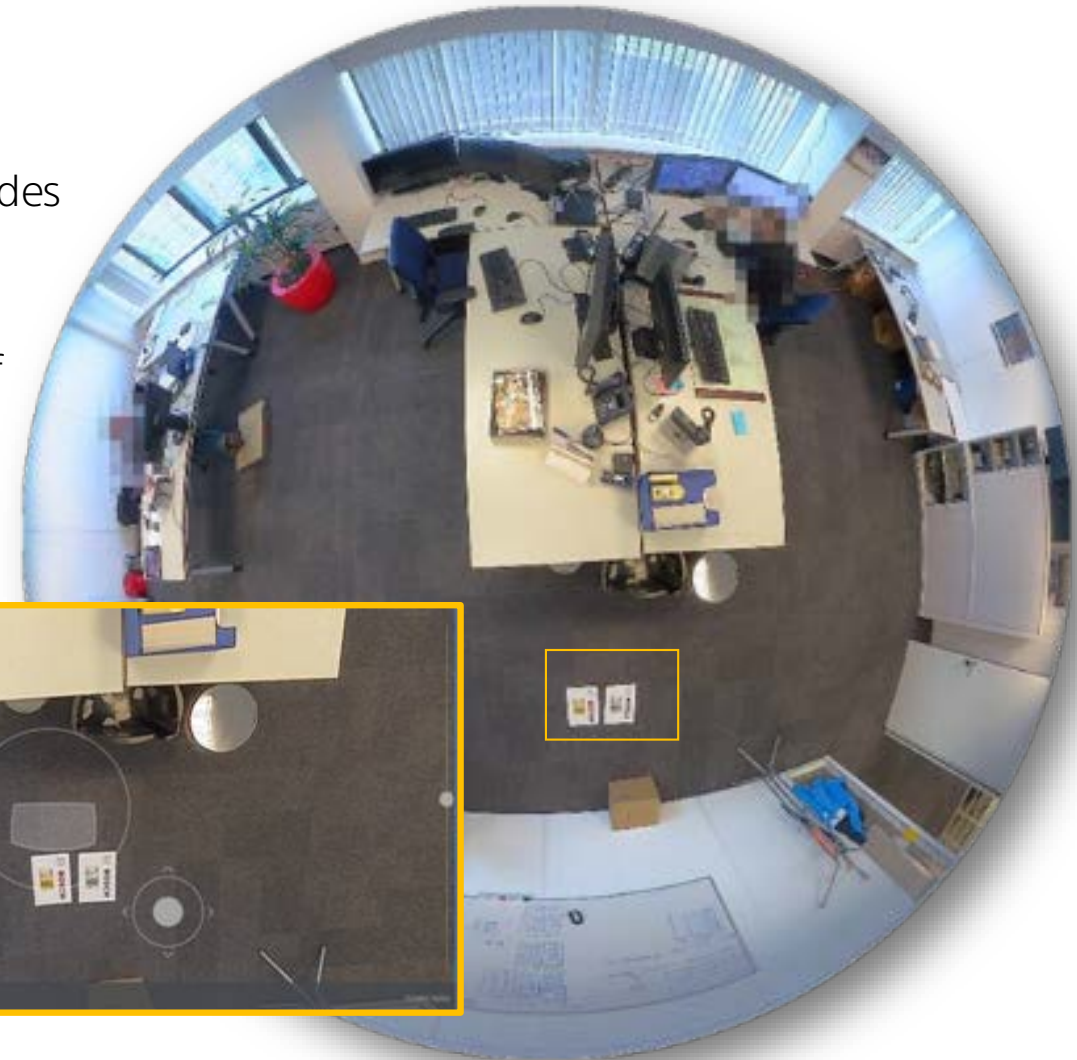
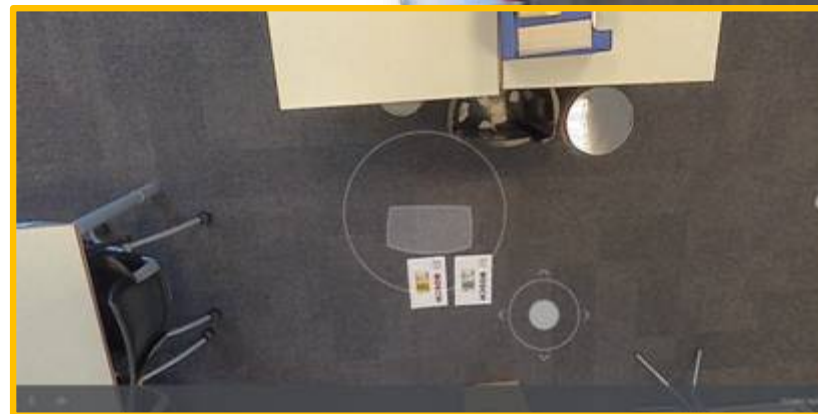




360° E-PTZ

E-PTZ view helps operators by showing one image which includes the possibility to use electronic pan, tilt and zoom (E-PTZ). By using E-PTZ, a circle will appear in the image with a field.

The field that is highlighted in yellow is showing the location of the full circle you are looking at.





360° Quad View

With the quad view users can reveal all blind spots and see everything in four different images. In every single image users do have the possibility to make use of E-PTZ within the selected images.



Full Circle





360° hemispheric

The hemispheric view allows users to see the surrounding area in one image. This image also includes E-PTZ functionality.



Full Circle



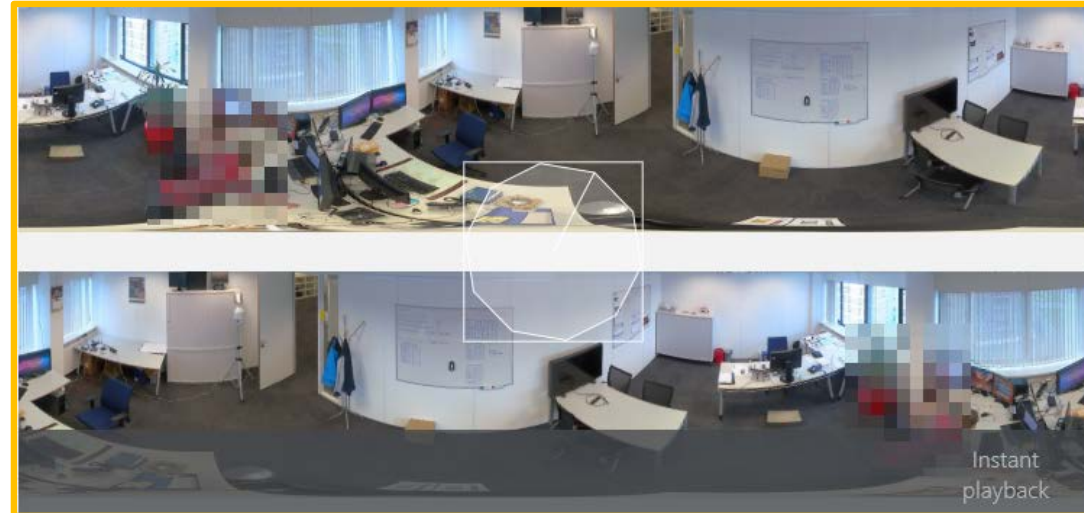
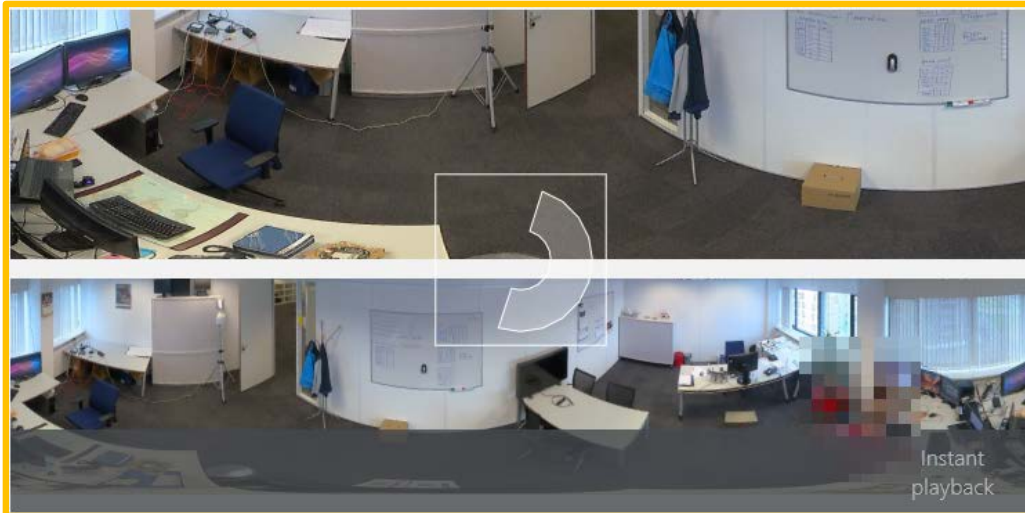


360° Double hemispheric

With the double panorama users can reveal all blind spots and see everything in two different cameos. In every single cameo you will have the possibility to make use of E-PTZ within the selected image.



Full Circle





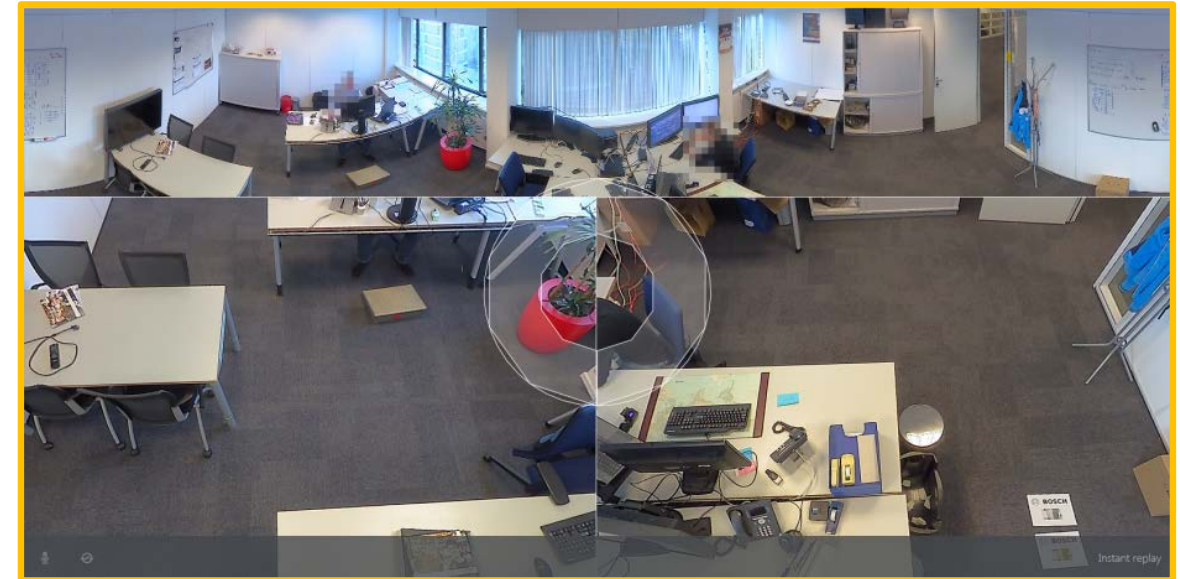
360° Combined

The combined mode is a combination of one panorama and two rectilinear images.

This mode is only available at client-side de-warping, depending on the used software.

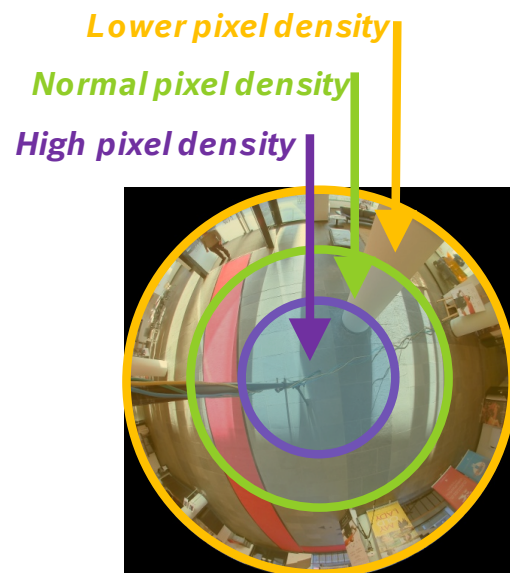


Full Circle

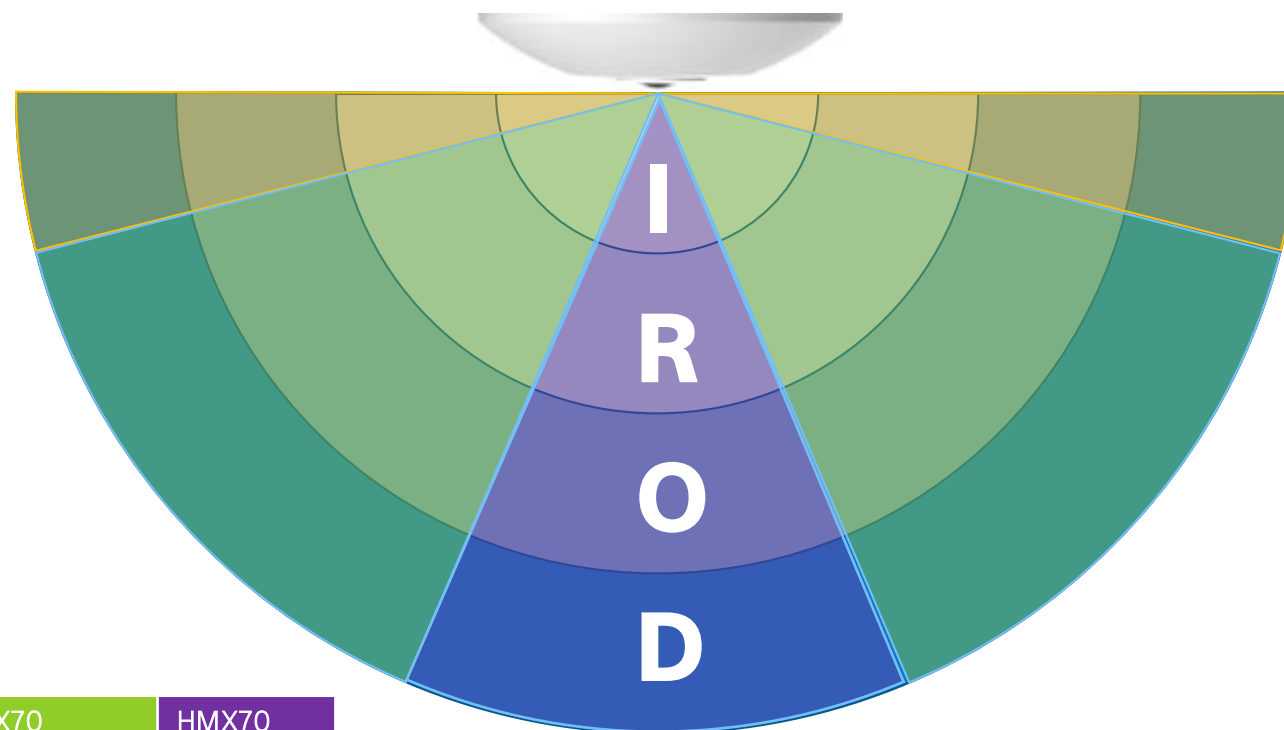




DORI



Type version	HMX70 360°	HMX70 360°	HMX70 360°
Identification	1.5m	2m	4m
Recognition	3.5m	4.5m	8.5m
Observation	7m	9m	16.5m
Detection	18m	20m	42m



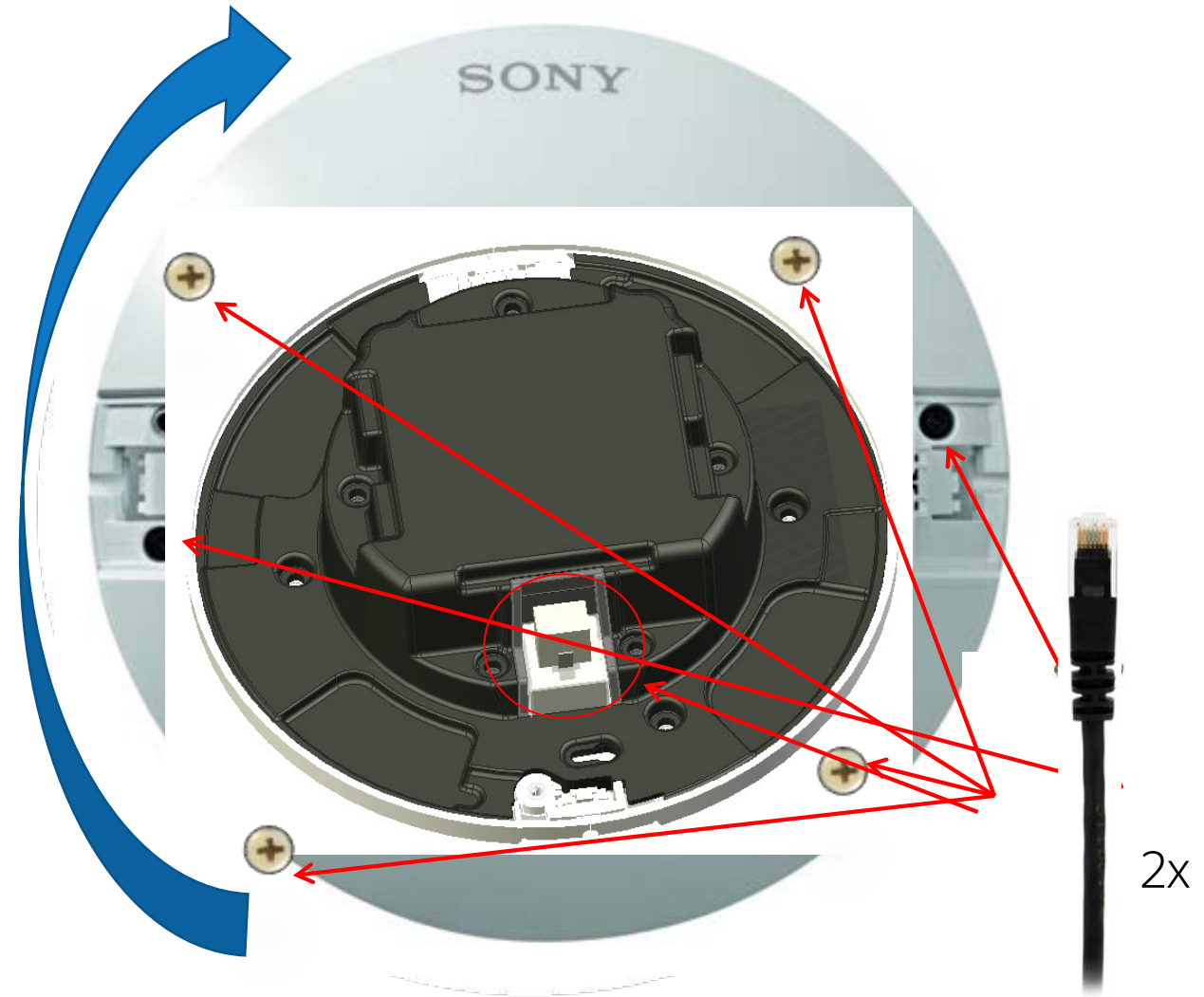
(EN-50132-7 standard)
 Detection - 25ppm
 Observation - 63ppm
 Recognition - 125ppm
 Identification - 250ppm



Installation

SNC-HMX70 Easy Installation Guide

1. Install the mounting ring or SMB
2. Insert the RJ-45 cable by putting the cable through the mounting ring
3. Put the camera in place
4. Turn till you hear a click
5. Open the hinges
 - Screw the camera to finalize the installation
6. Close hinges
 - Behind the hinges
 - LED indicator
 - Reset button
 - SD-card slot



Sony Video Security NEW SNC-HMX70

Availability
Accessories





Surface Mount Box



Pendant Pipe Mount

SNC-HMX70 360° Details



- Item number: **SNC-HMX70**
- Announcement: **March 2018**
- Availability: **May 2018**
- Price: **"tentative" REUP for Europe: €1.140,-**
- VMS Compatibility:
 - **Confirmed:** Milestone, Genetec, OnSSI & BVMS
 - **Others:** TBD



Summary



Available from : May 2018



Description	HM662	SNC-HMX70
Sensor resolution	5MP	12MP
Max. frame rate	10fps	30fps
Client side dewarping	Yes	Yes
Edge dewarping	no	Yes (3 streams)
Video Content Analysis	Basic IMD	EVA
Noise reduction	no	iDnr
Smart Streaming	no	Yes
True Day /Night	Yes	Yes
Environment	outdoor	Indoor
Edge Storage / SD slot	Yes	Yes
Audio	Yes	Yes

Thank you

