In Focus: Sony SNC-VB-630

The SNC-VB630 fixed network camera has a range of new functions on the basis of the new Exmor CMOS sensor. The image processing is improved by View-DR to provide clear images under strong backlighting or high-contrast conditions. XDNR technology (eXcellent Dynamic Noise Reduction) is used to reduce image noise. It provides clear, low-noise images at low light levels. The built-in video and audio analysis has been improved by additional functions such as face recognition and the recognition of unattended and removed objects. The SNC-VB630 has a sensitivity level that is more than twice that of the cameras of the 5th Sony generation.

CAMERA TEST

Performance

Performance assessment when used with 1,000 Lux
In good lighting situations the camera delivers a high contrast image. The colors are clear and displayed with just a slight yellow tint. The sharpness is very good and moving objects are also shown without smearing. No image noise is visible.

Performance assessment when used with less than 1,000 Lux
The good image quality is maintained even under weak lighting conditions. With continuously reducing lighting of the scene the camera constantly provides good images that are still sharp and full of contrast, even below 10 Lux. Below this level a slight but acceptable increase of movement blur and of image noise is noticeable. At 0.5 Lux the camera automatically switches into night mode (B/W images) and delivers a generally clear picture. Image noise can be seen here only on moving objects as the XDNR noise suppression apparently doesn't cut in to full effect. Object contours can still be seen in the image even under minimal lighting (just over 0 Lux).

Performance assessment in backlight situations
Thanks to View DR Wide Dynamic Range technology developed by Sony, the camera has a generally very good performance under backlighting. Under sudden backlight in otherwise dark conditions a stable b/w image is given after just 3 seconds, and 3 seconds later it switches to color mode. In both cases blurring of the backlight source remains limited and background details can be easily recognized.

Performance assessment in use: Bandwidth measurement
The camera was tested at a constant data rate of 4 MBit, although it would also support dynamic data rates. The bandwidth demand was relatively constant at 4.45 MBit, although a brief peak to 6.36 MBit was noticed under backlight conditions.

Conclusion
This day/night fixed camera from Sony's sixth product generation impresses with its good image quality even in low light level conditions and backlight situations. In addition the maximum frame rate of 60 images per second is also excellent. The device is supplied with power via PoE and has an SD card slot. The SNC-VB630 is ONVIF compatible (ONVIF Profile S) and provides camera-based video and audio analysis functions.

Technical data for the camera test

Manufacturer	Sony
Model	SNC-VB 630
Firmware version	1.3.0
Distance to test chart	0.7 m
Lens used	Fujinon DC MP ½.7" 2,8-8mm F1.3
*Focal length set	6 mm
*Compression method	H.264
*Max. Resolution	1920 x 1080
*Compression	–
I-Frame-interval	1 second
Max. stream bandwidth	32,000 kbit/s
Measured frame rate	30 fps
Average bandwidth	4.45 Mbit/s

* The camera was integrated into the test system using ‚default' settings and modified with the test criteria listed above.

Assessment with differing illumination conditions

Criteria | Lux values	1000 Lux	100 Lux	10 Lux	0,5 Lux	0 Lux + *BL1
Colours	1.5	1.5	2	b/w	2.5
Contrast	1.5	1.5	1.5	2	2.5
Focus	1.5	1.5	1.5	2	2
Motion sharpness	1.5	2	2	2.5	2
Image noise	1.5	1.5	2	3	2
Recovery from backlight	–	–	–	–	2.5
Performance against backlight	–	–	–	–	1.5

Assessment according to the following grades: 1 (Excellent) 2 (good), 3 (average), 4 satisfactory), 5 (limited), 6 (poor). BL= Backlight *in the beam of a white light LED