#### SONY



### Imaging Solutions for Surgical Microscopy

Capture. Share. Display. In HDR.

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#### SONY





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# Leading with innovations

Advances in ophthalmology	>
4K 3D for Heads Up surgery	>
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#### At Sony, we lead with innovations

With Sony's first HDR workflow for microsurgical imaging we're bringing unprecedented clarity to ophthalmology and other microsurgical procedures that are dealing with changing lighting situations and difficult visibility.

We have focused on addressing the challenge of effective low-light visualisation – from camera to monitor, through to documentation. By pairing a HDR microsurgical camera with remarkably high sensitivity, with compatible HDR 4K monitors we make it possible to experience evenly-exposed, finely detailed microsurgical images on screen.





## Advances in ophthalmology

Offering remarkable sensitivity, the MCC-1000MD sees low light details that other surgical cameras can't see.

The 27" LMD-X2705MD and new 32" LMD-X3200MD 4K surgical monitors bring all the clarity, contrast and color of HDR imaging to ophthalmology, accurately displaying an extended range of brightness levels without clipping the white highlights or losing detail in dark shadow areas.

Find out more









#### 4K 3D Displays for Heads Up surgery

Key to an effective Heads Up surgical display solution is ultra-high definition combined with 3D on a large display.

By combining latest 4K camera technology in 3D and our large 55" surgical monitor LMD-X550MT, we are making true 4K 3D Heads Up surgery possible.

Find out more









#### Supporting modality manufacturers

Supporting modality manufacturers with our camera module & image processing technology.

Capturing detail packed images at 4K or Full HD resolution, our range of single-chip and 3-chip camera modules paired with our deep knowledge of image processing algorithms is also ideal for direct integration into imaging solutions from microscope and endoscope manufacturers.





#### We support a wide range of workflows

	HDR Surgical imaging	<b>4K</b> Surgical imaging	<b>3D</b> Surgical imaging	FHD Surgical imaging	
Capture	<u>MCC-1000MD</u> <u>MCC-500MD</u> <u>CCMA-2DAR</u>		MCC-1000MD MCC-500MD CCMA-2DAR	MCC-1000MD MCC-500MD CCMA-2DAR	
🖑 Share	NUCLeUS				
Display	LMD-X3200MD LMD-X2705MD LMD-X2700MD	LMD-X550MD LMD-X310MD LMD-X3200MD LMD-X2705MD LMD-X2700MD	<u>LMD-X550MT</u> <u>LMD-X310MT</u>	<u>LMD-2735MD</u> LMD-2435MD	
Documentation Systems		<u>HVO-4000MT</u> <u>UP-DR80MD</u>	<u>HVO-3300MT</u>	HVO-500MD/SUR UPA-WU10 UP-D25MD	
KEY: <u>PRODUCT</u> = Link to website					

#### Sony delivers full microsurgical workflow to ophthalmologists

A global name in the field of ophthalmology, Dr. Manish Nagpal has shared his thoughts on using Sony's latest microscopic camera MCC-1000MD and 4K monitor LMD-X2705MD.

Application:Ophthalmology visualisationLocation:Retina Foundation & Eye Research CentreCountry:India

"The images captured for the surgery today were excellent. Advantage of this camera is that at very low light it's able to capture very good quality images without noise. So the macular hole surgery case today which tends to have a lot of highlights was balanced out very well and we could see the overall frame of the image quite well because of this feature"

Dr. Manish Nagpal











"The second most important feature is the HDR which is the high dynamic range. It balances out the dark areas and the bright areas and improves the exposure to balance it out so that we can see the image in much more natural light exposure and colour like we are used to see under a microscope. And what it does, it captures and also transmits it to the high quality 4K monitor in which this image captured in HD quality is upscaled to almost a 4K quality."

"The images captured for the surgery today were excellent. Advantage of this camera is that at very low light it's able to capture very good quality images without noise. So the macular hole surgery case today which tends to have a lot of highlights was balanced out very well and we could see the overall frame of the image quite well because of this feature. And on the other hand when we use the brilliant blue dye, the overall light becomes very dark and the frame becomes dark usually which is balanced out by the HDR function of this camera. We could see the frame quite well using both these features for dark and bright areas."



"So I think the ability to capture in very low light condition as well as balancing the shadows and the highlights quite well is an excellent feature of this camera." "When we capture something at very high resolution and in an HDR capability, we need a monitor which is able to reproduce these qualities of the images. So this 4K monitor is able to display exactly this quality so that all the fellows and assistants in my operation theater can see exactly what I am seeing in the microscope during the time of surgery."





"I have been using various generations of Sony cameras over the last two decades and I have been extremely happy with the image quality as well as the support from Sony. I would highly recommend to fellow colleagues for the same."

#### Sony delivers full microsurgical workflow to ophthalmologists

Dr Gaurav Luthra, chief of cataract and refractive surgery at Drishti Eye Institute, Dehradun, India shared his experience of using Sony microscopic camera MCC-1000MD and 4K monitor LMD-X2705MD.

Application:Ophthalmology visualisationLocation:Drishti Eye InstituteCountry:India

"I think overall the camera and the 4K monitor together translate into a much better experience for the safe of the surgeon and also for those people who are in the OR to learn."

Dr Gaurav Luthra, Chief of cataract and refractive surgery











"I started recording surgeries 20 years ago and for the reason that I was learning phaco surgeries at that time. I wanted to review of any possible mistake or which step I could have done better. Later I became good at phaco surgeries and I started to present all my videos so that new surgeons could learn from them and then I was invited to so many places to present."

"The new camera MCC-1000MD and the new 4K monitor really compliment each other really well and stood out in our today's surgery. Because we could capture very fine details of the surgery at very low illumination which is one area of our work and which is also the interest for all colleagues working in retinal surgery at very low lights. So the fine details and the very high sensitivity stood out at very low illuminations and in the darkness during retina surgery."



"I think the HDR feature of the camera also really helps in capturing very high quality images because this is not available on many of the other systems that we have seen."



"In today's surgery we experienced amazing capabilities of the new camera because we could get better images even at very low illumination that we are obliged to work. And the 4K monitor has actually translated it very well so that people in the operation theater can actually see things so much better."

"We have visiting observers and we have trainees who are usually attending at our opertion theaters almost all the time. For them it also stood out a lot, because the 4K monitor was able to give excellent details of what we are doing better when comparing to other OR's with other monitors. I think overall the camera and the 4K monitor together translate into a much better experience for the safety of the surgeon and also for those people who are in the OR to learn."

#### Sony delivers full microsurgical workflow to ophthalmologists

Dr. Abhay R. Vasavada shares his experience using Sony latest microscopic camera, the MCC-1000MD and how high-quality images produced by the camera are not only helping him improve his techniques but also allowing him to utilise the content for training and review purposes.

Application:Ophthalmology surgeryLocation:Raghudeep Eye Hospital, AhmedabadCountry:India



"This particular camera is so unique and I believe it is because of its HDR capability and it really equals all the darker and the brighter areas of the images."

Dr. Abhay R. Vasavada









"Images we capture during cataract surgeries are invaluable for us. We use it for our own review process improving our own techniques. We also use it for training and education for our fellow colleagues who benefit so much by better quality of images. We also use it at national and international conferences to share our knowledge and skills and to teach these colleagues."

"Also if the environment is a little bit darker like in posterior segment or in a cataract surgery with a small pupil, the sensitivity of the camera is so high that you really don't want the image shown any different than displayed on the monitor. You won't feel as if you are observing an image on a monitor. And particular this kind of monitor is very good."





"I want to tell my fellow colleagues that you don't need a very high end microscope like what we have. You can use it with any kind of basic microscope and still this combination of camera and monitor will give you a very high quality image which you have not received earlier."

"I have been using this camera since 6 months and it has changed the game of my educational activities and training. I am using these images at national and international conferences and to train my fellow colleagues. Nonetheless it also has improved our surgical skills for our own surgical procedures."



For more information about Surgical Microscopy Imaging Solutions, get in touch with our Healthcare Solutions Team.

**Contact us** 

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