

# Images for life

Nexxis for video integration in the operating room



# A picture perfect performance

Nexxis stands for video integration done right. Intuitive, safe, and easy to use, it is designed to meet the most urgent needs of the surgical team: precise imagery, efficient workflow, and maximum flexibility in the increasingly complex operating room (OR).

We partner with the world's leading OR integrators to bring the unique benefits of Nexxis to your surgical suite. Because when health outcomes depend on image quality, Nexxis becomes the cornerstone of any integrated, hybrid or interventional operating room.



The pros of Nexxis are ease-of-use, ultra -low latency, a high degree of flexibility, and the ability to integrate every signal type.

St. Elisabeth- Catholic Hospitals Rhein-Ruhr

# See lifelike images



## HD and 4K video with perfect color reproduction

In image-guided surgery the displays are the eyes of the surgeon. Best-in-class image quality provides surgeons with the right depth and color perception to enable safe and efficient procedures.

That is why Nexxis provides a frame rate of 60Hz to present fluid video – in all its supported resolutions, from HD up to 4K/UHD. The high quality and accuracy of the images helps reduce eye fatigue during long surgical procedures.

Nexxis uses the best available color reproduction methods like 4:4:4 chroma and has automatic color gamut selection (BT.709 or BT.2020) to match the camera source and configure the display. All this without compression of video streams – because we know every detail matters.

Display of images during image-guided surgery is seen as one of the biggest challenges by OR staff<sup>1</sup>. That's why Nexxis presents live images without artifacts and without latency to provide the best visual guidance for surgeons.

### No latency

The tiniest bit of delay (also called latency) between the moment an image is captured and the moment it is displayed will affect the accuracy of surgical procedures. Unlike other video integration systems, Nexxis introduces near-zero latency, not by decreasing video quality through compression, but by building on a high-bandwidth network backbone. The outcome? Perfect hand-eye coordination.

### No artifacts

With Nexxis, streaming of video and other data is done without compression. This means that there is no quality loss when transferring images, whether inside or between operating rooms. Nothing is lost due to compression artifacts. And nothing is added. The outcome? Pixel-perfect precision.

<sup>1</sup> TheMarketTechGroup, Survey about the requirements of video integration in the operating room, 2016

# Make better use of the OR

Healthcare is about efficiency – doing more and performing better with less. Changing between surgical procedures and preferences requires the time and expertise of biomedical engineers. But with Nexxis, setting up and switching between procedures becomes a breeze. It allows OR staff to concentrate on patient care instead of dealing with technical issues.

## Simple to set up

Nexxis allows plug and play of devices so you can easily configure the OR. Add or remove devices (e.g. navigation devices, mobile imaging equipment, etc.) by plugging in a single optical cable and the device shows up automatically on the control user interface. Switching sources? Easy! Displaying images where and when you need them? Done in no time!

## Fast turnaround

Integration with Nexxis is intuitive, making it easier to switch between procedures and devices and reducing the risk of error. Simply said, Nexxis helps you deal with the increasing complexity of medical technologies in the OR. Efficiency is key. That's exactly how we help you configure and turn around the hybrid OR quickly to support a variety of procedures and to help you get the most out of your valuable OR investments.

## Increase OR uptime

A comprehensive set of diagnostic and support tools allows technical staff to remotely monitor, troubleshoot, diagnose and solve technical problems in the operating room. OR setups, maintenance, upgrades and servicing can now be performed without entering the operating room, ensuring maximum OR utilization.



## Room for personal preferences

With Nexxis, content can be positioned flexibly from display to display, from procedure to procedure, and according to a surgeon's personal preference. It allows easy image composition of up to eight multi-modality sources onto a single screen. It also enables image flip and mirroring, for example, which is especially useful when two surgeons operate together.





## Intelligent and flexible multi-view compositions

Display images the way you want:

- Full screen
- Picture-in-Picture
- Picture-and-Picture
- QuadView
- Easy image composition of up to 8 multi-modality sources onto a single screen

For easy identification of the different sources in a multi-view composition, each source can have a text overlay indicating the name or type of the source.

### Remote collaboration

Nexxis enables real-time video and audio conferencing with partners outside the operating room for remote consultations. All video and audio streams are encrypted so data security is guaranteed.

### Efficient workflow

You can use Nexxis with 3rd party devices such as camera buttons or foot pedals which, when activated, make a snapshot of the camera image or start and stop a recording in real time. The possibilities are endless and easy to implement via the Nexxis software API.

# Keep your patients safe

Patient safety is an important objective in the operating room. It means every system and device used in the OR must be approved for medical use.

## Fit for medical use

As with any device in the operating room, compliance with sterilization and safety standards is vital to ensure reliability and patient safety. Nexxis – and all of its components inside the OR – has been classified as a medical device CE/FDA (class I/II) and is fit for medical use.

## Mission-critical

Nexxis transfers data over a safe and secure gateway that is HIPAA compliant to safeguard patient privacy. In addition, Nexxis works perfectly together with Barco surgical displays, which offer an automatic backup signal ensuring uninterrupted surgical procedures. Patient safety guaranteed.

## Fewer points of failure

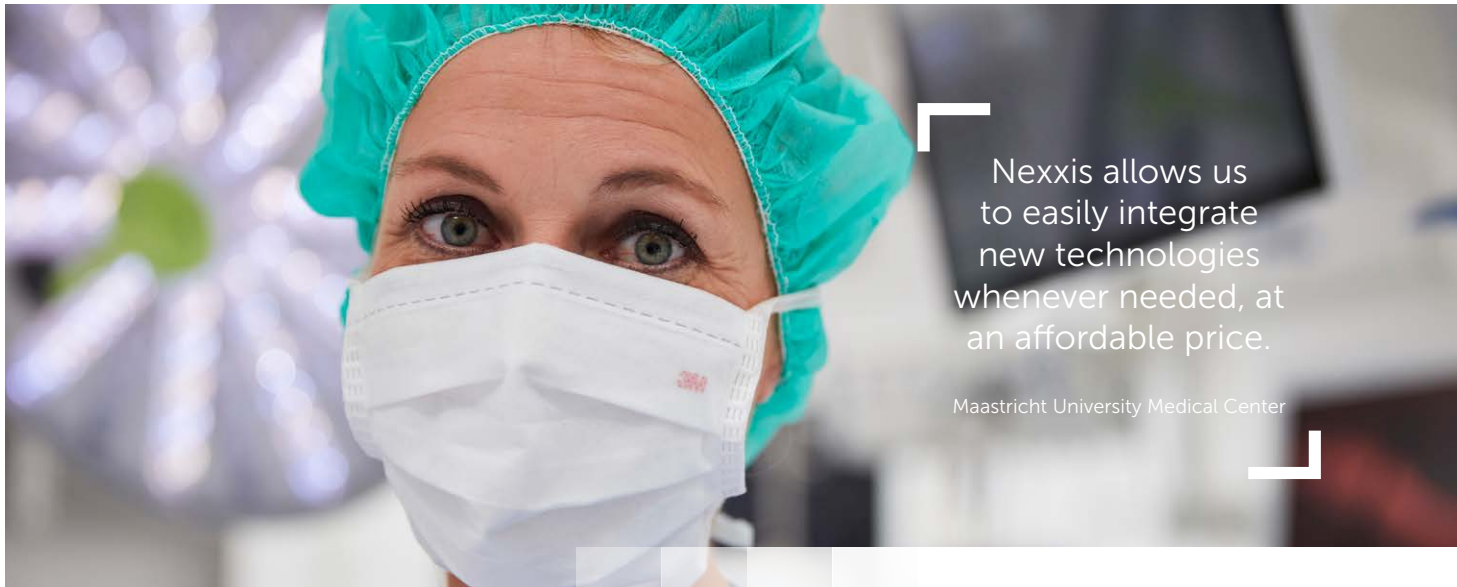
Nexxis reduces cable clutter, complexity, and eliminates the need for additional components, such as splitters and converters. Obviously, the less components, the better. It means fewer points of failure and fewer elements to manage.

## Field proven robustness and reliability

Operating rooms worldwide rely on Nexxis to improve the safety, precision, and efficiency of the surgical team. We partner with internationally renowned digital OR integrators to develop a video integration system that best fits your needs.



# Be ready for the future



Nexxis allows us to easily integrate new technologies whenever needed, at an affordable price.

Maastricht University Medical Center

**Built on a non-proprietary IP technology platform, Nexxis is ready for any new technology as soon as you are. Scalable and flexible, you can adapt as you need to and expand as you grow. Whether in Full HD, 4K or 3D resolution, new imaging technologies will get the representation they deserve.**

## Scalable and flexible

The modular and scalable platform supports easy modification and expansion as technologies and techniques for surgery evolve. You can seamlessly integrate devices from HD to 4K and connect new ORs to the network architecture. Upgrading the OR happens without changes to the infrastructure and without impacting your initial investment.

## Standard architecture

Nexxis features a standard architecture, built on unified fiber cabling, meaning cabling can be laid in advance and new sources/devices can be added at any time so OR upgrades run quickly with limited disruption.

## Unified cabling

By using one type of fiber cable, Nexxis reduces cable clutter as well as video cable breakage. New components and technologies can be added to the network at any time. Fiber cabling also offers more flexibility than video cables, so you can get the most out of Nexxis, now and in the future.



## We share your commitment to building a greener future.

That's why every Nexxis component is designed and manufactured with special attention to the protection of the environment and the sustainable use of natural resources. Barco's Design for the Environment program focuses on reducing the toxicity of our products (RoHS and REACH compliance), enhancing the amount of recyclable parts and making our solutions more energy efficient. The latest Nexxis components are smaller and use 50% less power. And with our regional configuration management system we reduce the waste and transport energy cost by shipping only the right cabling.





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