

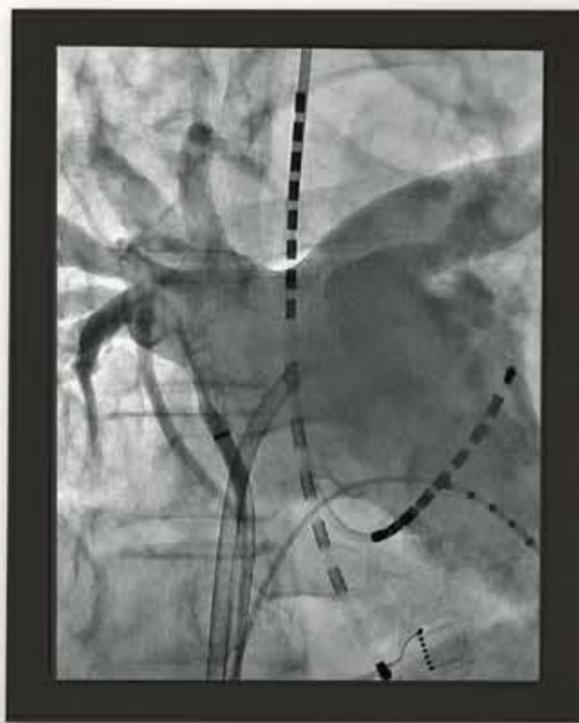
Canon



Cardiac & Vascular
Interventional Systems

Alphenix

Redefine Intervention



See New Possibilities Beyond the Image

The Alphenix family of interventional systems deliver images with greater clarity and precision. Combined with industry-leading dose optimization technologies, enhanced workflow, and a new set of features, Alphenix continues Canon Medical's commitment to supporting you and your mission to provide patients with safe, accurate and fast imaging.

Technology to help you deliver the best possible outcomes for your patient

WorkRite

WorkRite technologies help you optimize workflow and provide an unprecedented range of patient access and coverage.

ImagingRite

ImagingRite technologies enable you to deliver high-quality imaging and offer a full complement of fully customizable advanced imaging tools.

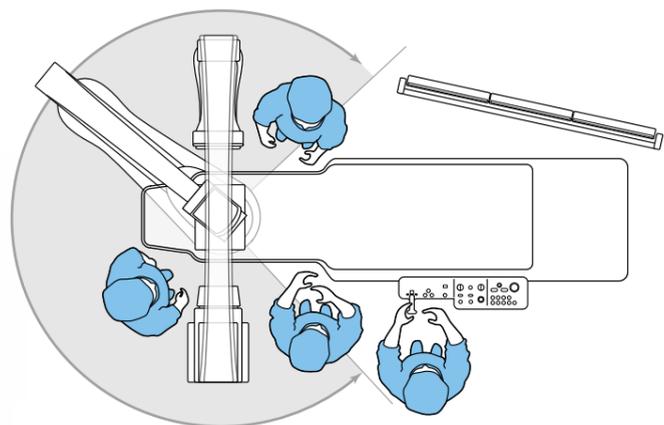
DoseRite

DoseRite technologies provide a comprehensive dose management suite of tools designed to help you minimize patient X-ray exposure.

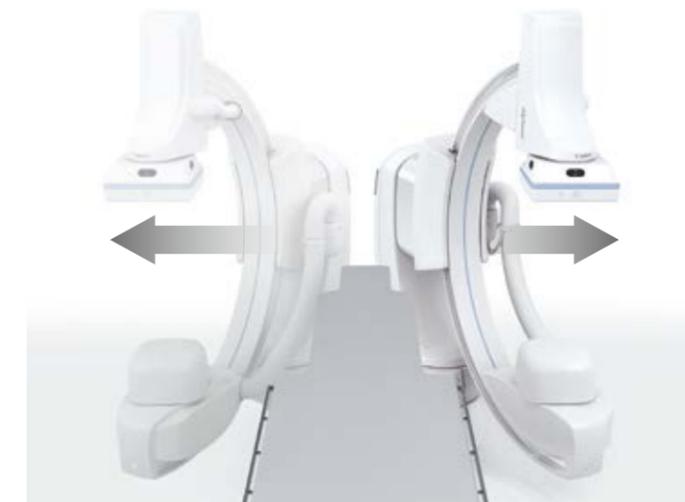
Unparalleled flexibility and access to your patient



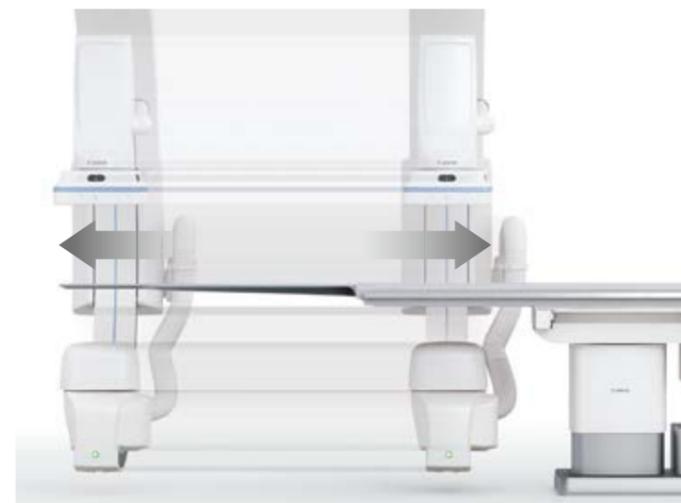
Every patient is different. The Alphenix, with its WorkRite technologies, provides you with unprecedented access to the patient and flexible anatomical coverage from any angle.



Multi-access floor-mounted C-arm allows for head-to-toe and fingertip-to-fingertip coverage for greater clinical flexibility.



Ceiling-mounted C-arm provides unparalleled full-body lateral access without moving the patient or the table.



A fast, seamless, and intuitive work experience

The evolved Alphenix Tablet allows operators to access a wide range of functions at their fingertips. Procedures can be performed with intuitive controls to streamline workflow considerably.



Customizable layout



Acquisition program selection



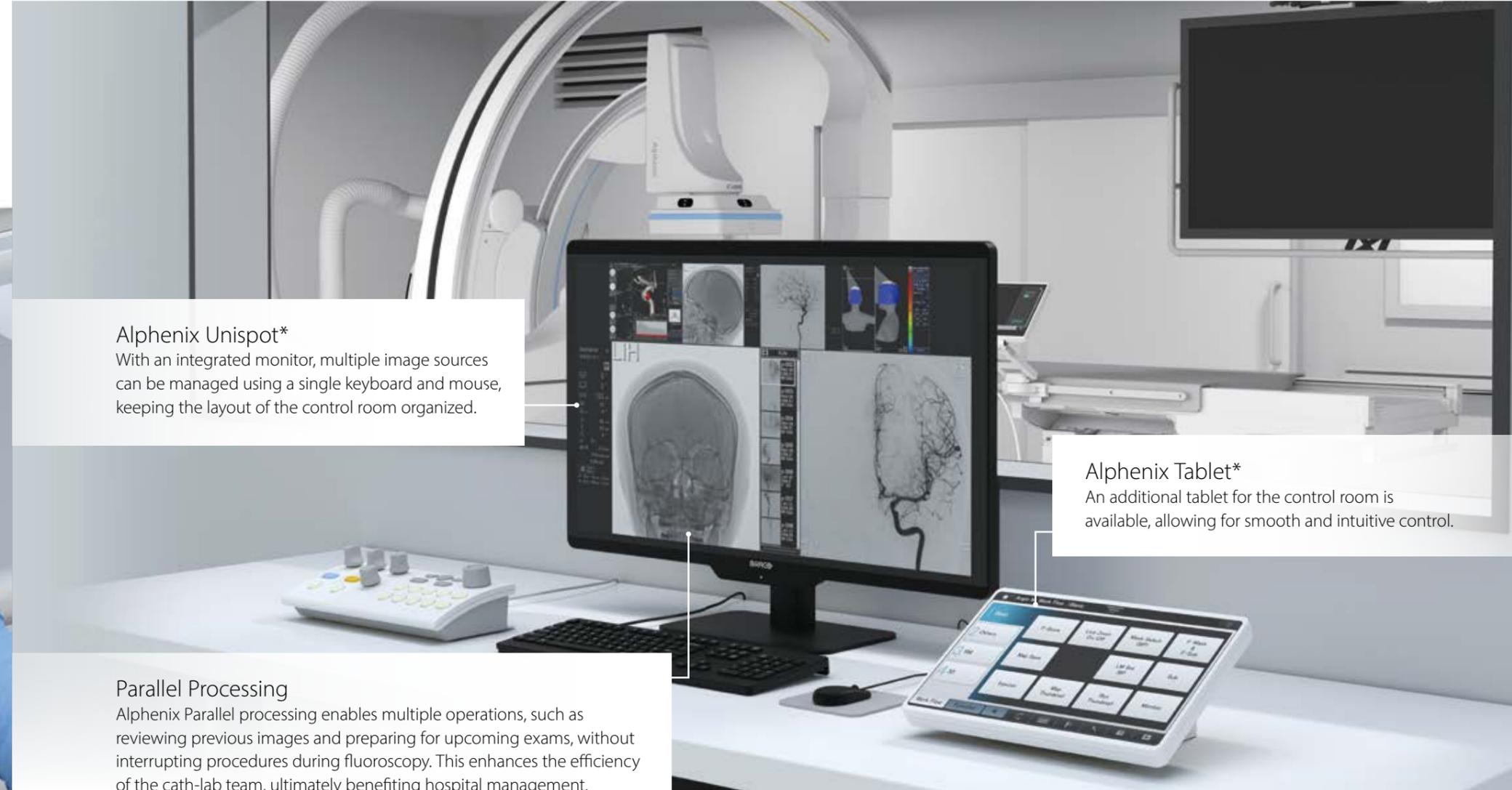
Automatic C-arm positioning



Access to acquired images



Optimize the control room for enhanced workflow



Alphenix Unisport*
With an integrated monitor, multiple image sources can be managed using a single keyboard and mouse, keeping the layout of the control room organized.

Alphenix Tablet*
An additional tablet for the control room is available, allowing for smooth and intuitive control.

Parallel Processing
Alphenix Parallel processing enables multiple operations, such as reviewing previous images and preparing for upcoming exams, without interrupting procedures during fluoroscopy. This enhances the efficiency of the cath-lab team, ultimately benefiting hospital management.

* option

The heart of your cardiac lab



Alphenix Integrated with QMAPP®

The most compact, smart and advanced hemodynamic measuring system in the world. An easy-to-use device installed with only one cable. With software that really allows you to focus on your patients.

SMART SOFTWARE

- Connects and integrates with everything in your lab
- Integrated workflow
- Unparalleled uptime

SMART HARDWARE

- Connects with one single cable
- Compact amplifier
- No forced cooling

QMAPP® provides:

- Non Invasive Blood Pressure
- Cardiac Output
- End Tidal CO₂
- Up to 2 Temperature Channels
- SpO₂
- Up to 4 invasive Blood pressures
- 12 Lead ECG
- Up to 32 EP Channels
- Integrated FFR
- and more...

Operate QMAPP® with Alphenix Tablet

The Alphenix Tablet reduces the need for additional personnel in the control room. The vast majority of QMAPP functions can be performed from the tableside, enabling you to focus on your patient. The same operations can also be performed using the control room tablet.

- Hemodynamic samplings (Normal sample, ECG (12 leads), EDP, NiBP, Pullback, Gradient, Vitals, Marker)
- IBP Zeroing
- FFR
- Cardiac Output
- Start/Stop Timers
- and more...



QMAPP® is a product of Fysicon, a Canon Group Company. For more information, please visit fysicon.com or contact your Canon Medical representative.

Accurate Stenting with Dynamic Device Stabilizer (DDS)

Interventional Cardiologists face challenges with stent visualization, device positioning and expansion. DDS utilizes Deep Learning* to automatically detect balloon markers in real-time, magnifying and stabilizing the image on a separate screen to assist visualization and assessment. Structures like stents that surround the balloon markers can be accurately evaluated for precise placement and deployment.

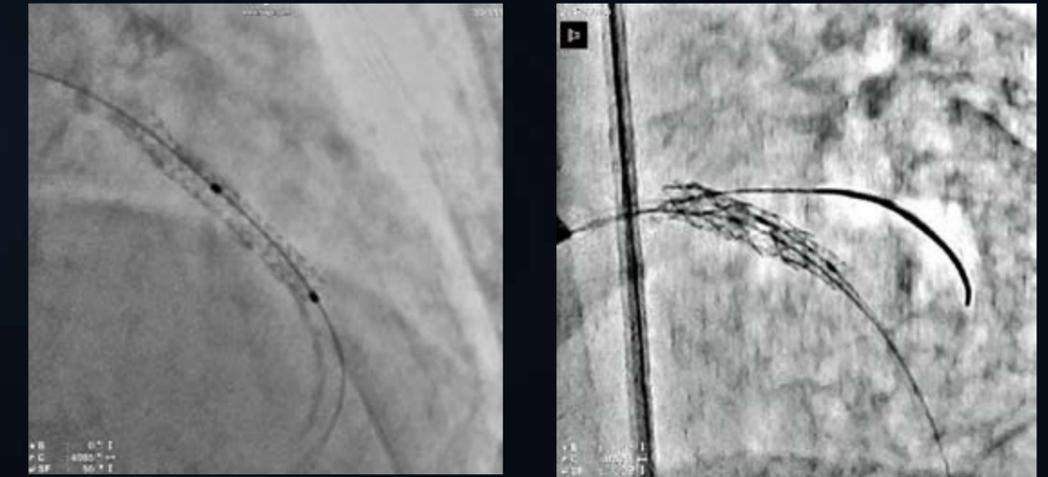


Dr. Sanjeevan Pasupati

Interventional Cardiologist of the Department of Cardiology at Waikato Hospital, Hamilton, New Zealand.

"Canon's Dynamic Device Stabilizer technology has been a great addition to our department. Using Deep Learning it automatically detects balloon markers in real-time, without any manual input. It is also available even with Fluoroscopy."

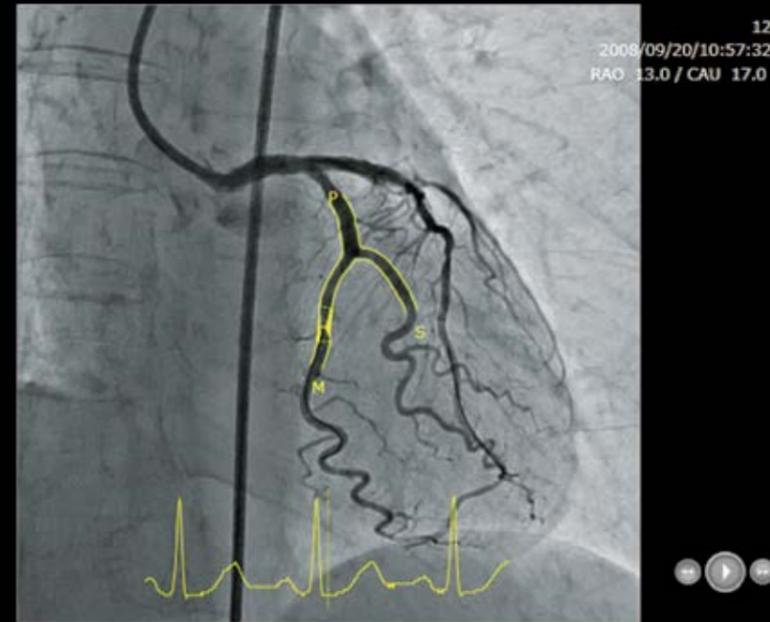
powered by  Altiivity



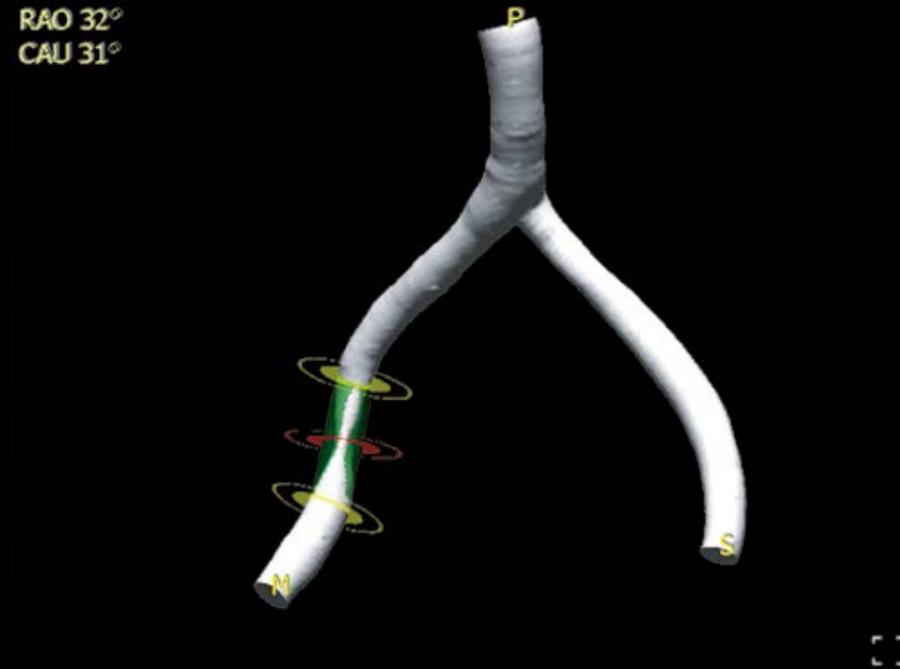
* DDS is not provided with a self-learning function that allows Alphenix to modify its own programs. Therefore, training of the DDS algorithm is not performed at the end user's site.

A feature-rich workstation to enhance your productivity

Integrated cardiac-optimized applications help boost productivity.

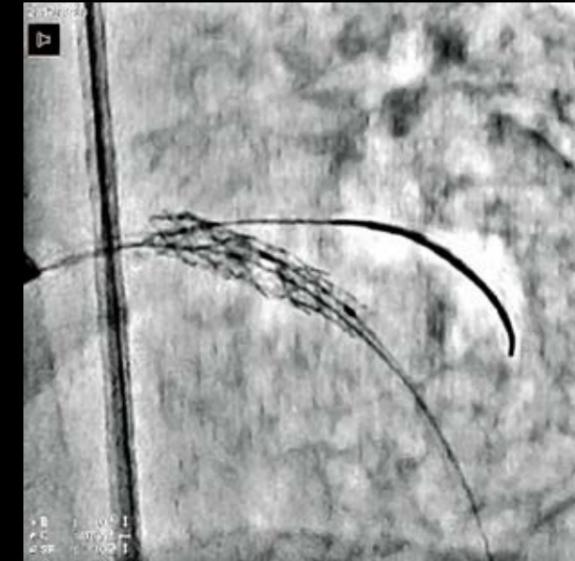


QCA* features automatic contour detection and analysis of the area of interest. Various calibration options are available, such as Catheter, Sphere, and Distance calibration methods.



3D-QCA* features reconstructions of stenotic coronary arteries and allows quantitative cross-sectional information to be displayed. This offers automatic contour detection, single-segment analysis, and bifurcation analysis.

powered by 



Dynamic Device Stabilizer (DDS) displays stable stent-enhanced images to support doctors' decision-making in treatment by stabilizing balloon markers. It provides live enhanced images not only in DA but also in fluoroscopy to support the realization of reliable treatment.



Stent Mode enables a special protocol with image processing IQ settings to help enhance live stent visualization without the need of any additional post processing. Every press of the foot pedal will immediately display Fluoro or Acquisition runs with Stent optimized settings.

* option

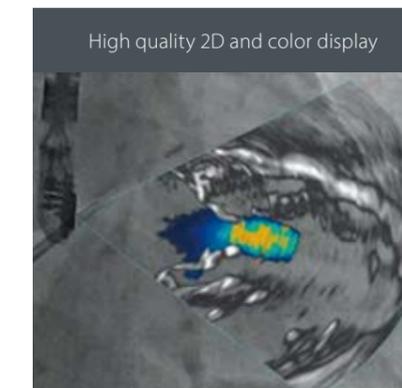
Support Structural Heart Disease (SHD) treatment with Echo Fusion



Complexity in Structural Heart Disease is increasing, with new procedures requiring accuracy and efficiency. With intelligent Deep Learning* technology, Echo Fusion automatically identifies the echocardiography probe and fuses the fluoroscopic image without additional operator input. This auto-registration streamlines workflow, reducing procedure time and improving operator confidence - eliminating the need for orthogonal projections for fusion.

Echo Fusion facilitates the communication between the interventional X-ray system and the ultrasound machine that are used in tandem for Structural Heart Disease (SHD) procedures.

powered by  **Altiivity**

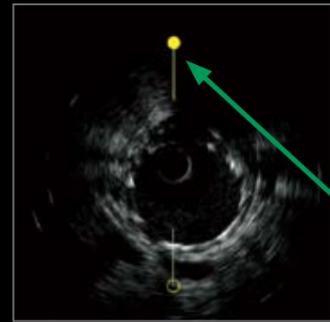


* Echo Fusion is not provided with a self-learning function that allows Alphenix to modify its own programs. Therefore, training of the Echo Fusion algorithm is not performed at the end user's site.

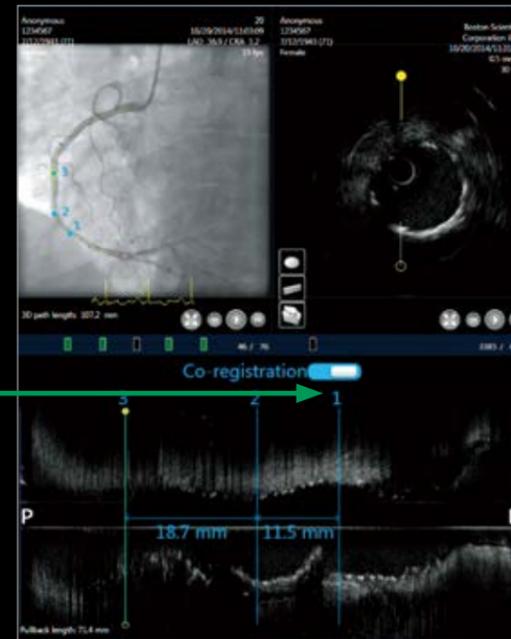
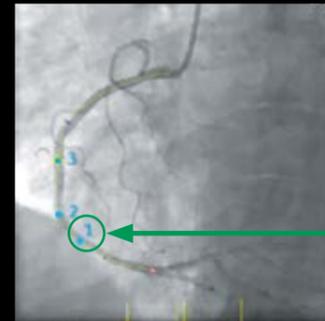
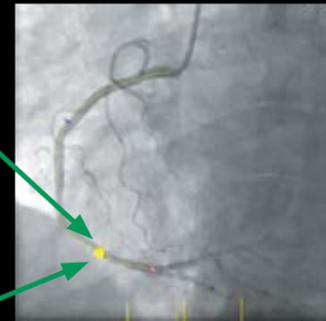
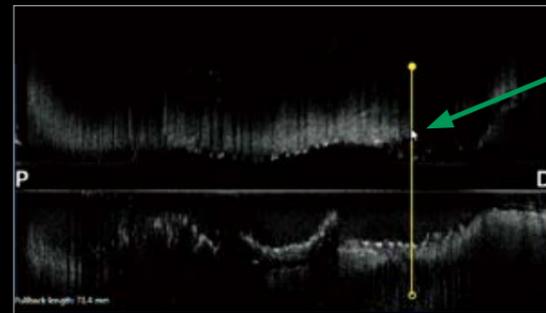
Navigate with confidence and accuracy

IV-LINQ*

Short axis cross-sectional image



Long axis cross-sectional image

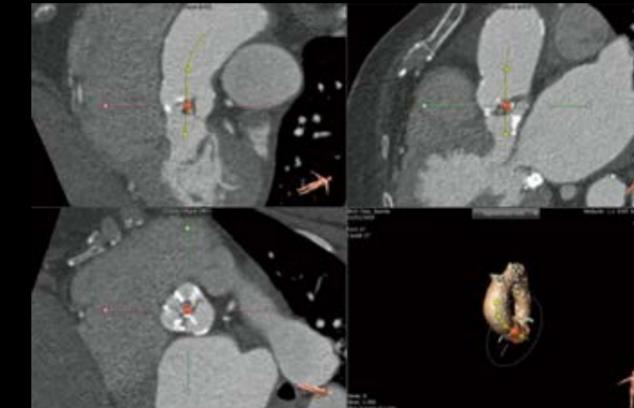


Annotate the image with bookmarks to facilitate stent planning and placement.

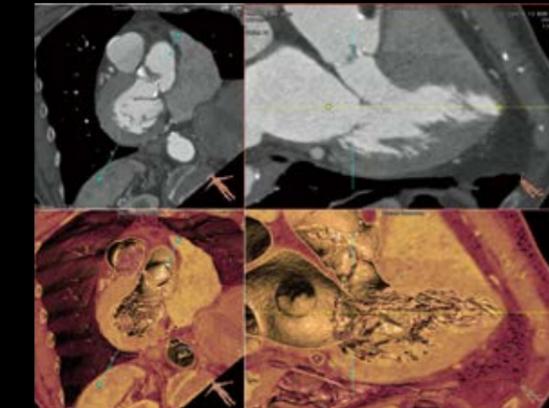
Co-register in real time between angiography and IVUS/OCT to obtain a detailed view of the lesion and its exact location in the coronary tree.

Structure Heart Disease (SHD) procedure support* (3mensio, A-valve)

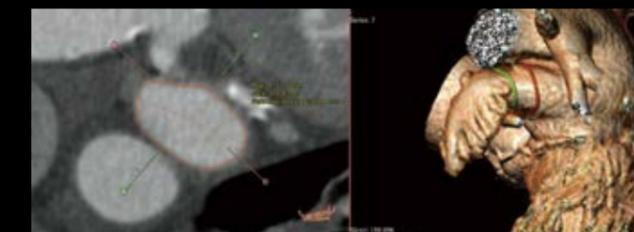
Comprehensive SHD procedure planning software makes pre-implementation analysis possible, allowing quick and intuitive analysis of target anatomy prior to SHD device implantation. A-Valve assists the physician in evaluating aortic regurgitation after transcatheter valve replacement.



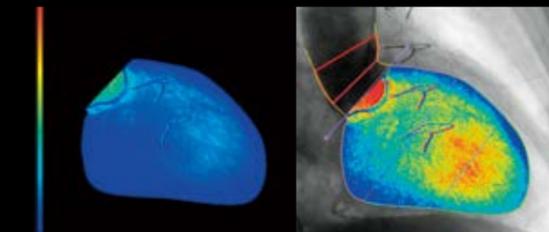
Aortic Valve



Mitral Valve



Left Atrial Appendage



Caas A-Valve

* option

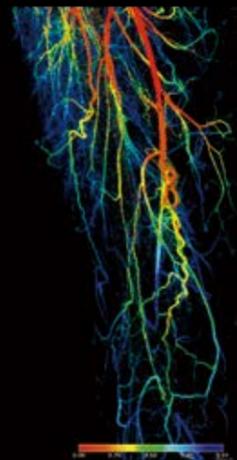
3D/Multi-modality Roadmap*

Any segmented regions of 3D volume data from Alpha CT (CBCT), CT, or MRI can be fused on fluoroscopy, which entirely supports your procedure from planning to treatment phase. The 3D image display updates seamlessly in real-time to the changes in C-arm angulation, field of view (FOV), table position, source to image distance (SID), and other system movements for proper alignment.



Parametric Imaging

Parametric Imaging uses information from the time density curve to express the timing arrival of contrast medium. Information is assigned at the pixel level. Color values are assigned based on time density curve. The PI maps of Time-to-Peak values with red to blue color-maps represent fast to slow blood flow. The image is displayed in colors corresponding to the elapsed time or to the number of elapsed frames.



Rotational Angiography*

Automated sequential rotational image acquisition can enhance visualization and diagnostic confidence while significantly lowering contrast and radiation exposure for greater patient safety.

Rotational Angiography : Multiples angles with one injection



* option

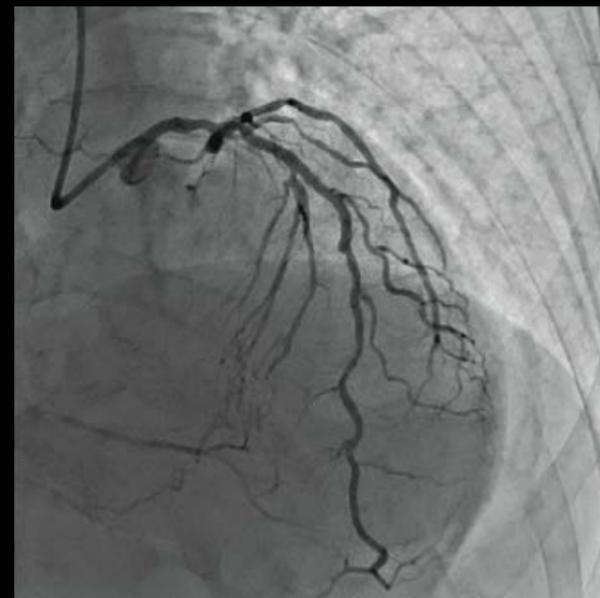
Clinical gallery



Spider View (+100kg patient)



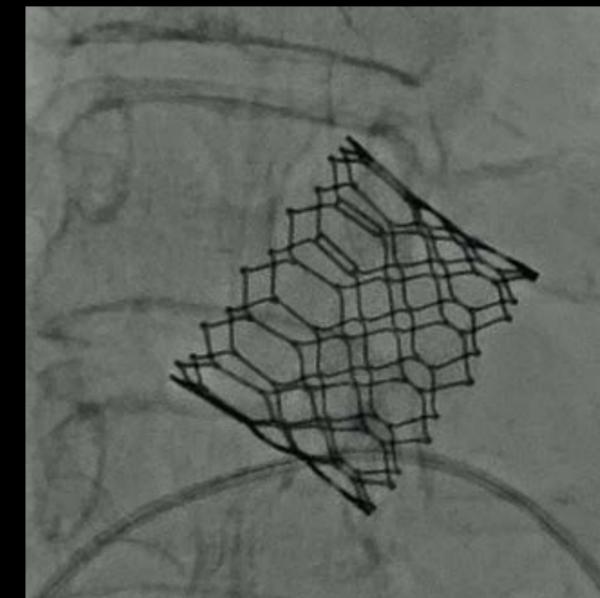
Pre PCI



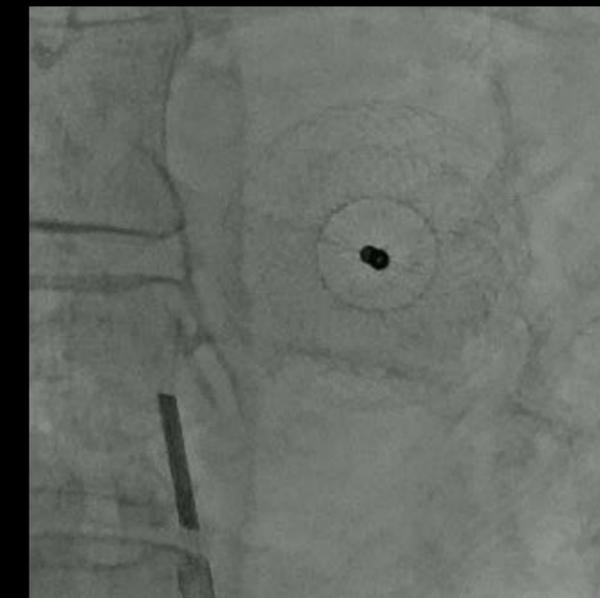
Post PCI



RCA & Stent



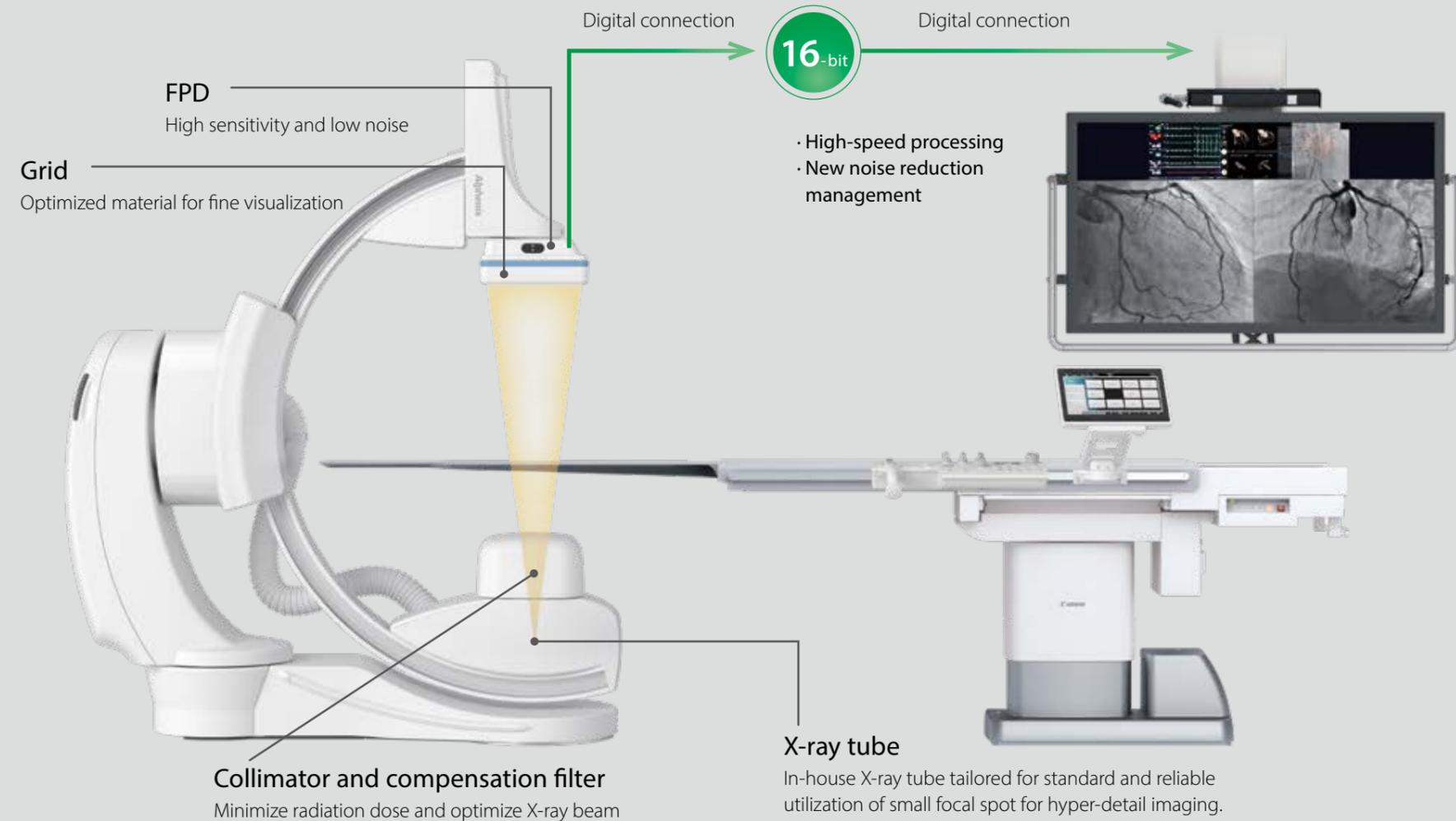
TAVI with HI-Def* mode



PFO occluder with HI-Def* mode

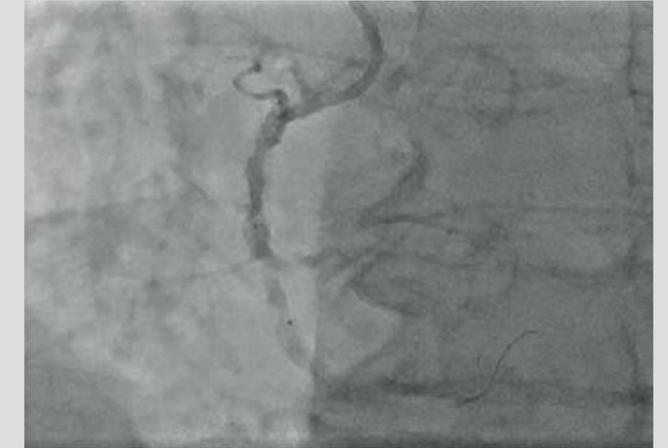
* option

Optimize image quality while reducing the exposure dose

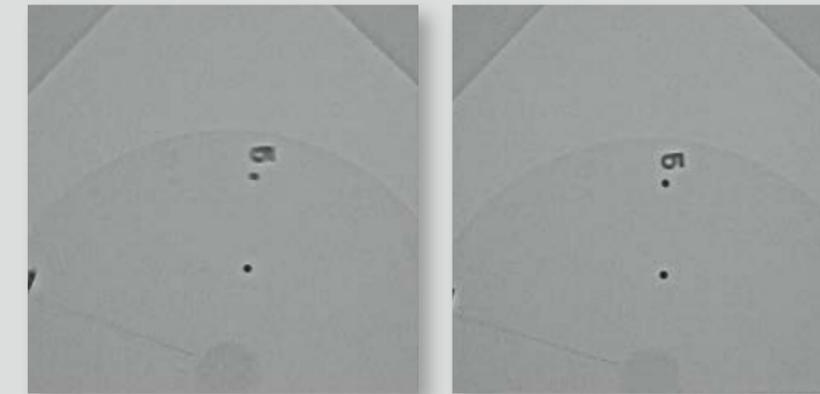


Dedicated Cardiac Tube

Our dedicated Cardiac tube was developed to provide sharp images with maximized output, even for bariatric patients and at steep C-arm angles, and to reduce motion blur caused by rapidly moving coronary arteries with shortened pulse width. It provides consistent reliable visibility and supports percutaneous coronary intervention (PCI) procedures with the 8" and 12" FPD*, as well as other cardiac procedures such as structural heart disease (SHD).



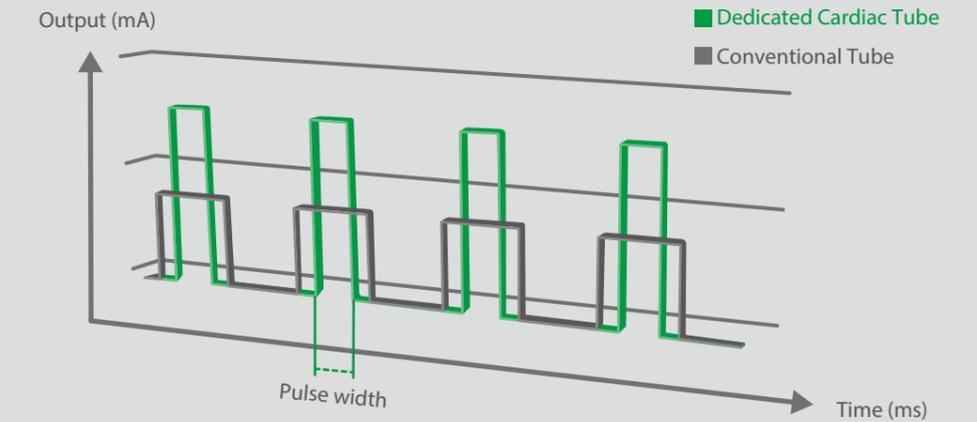
Rotational Phantom



Conventional Tube

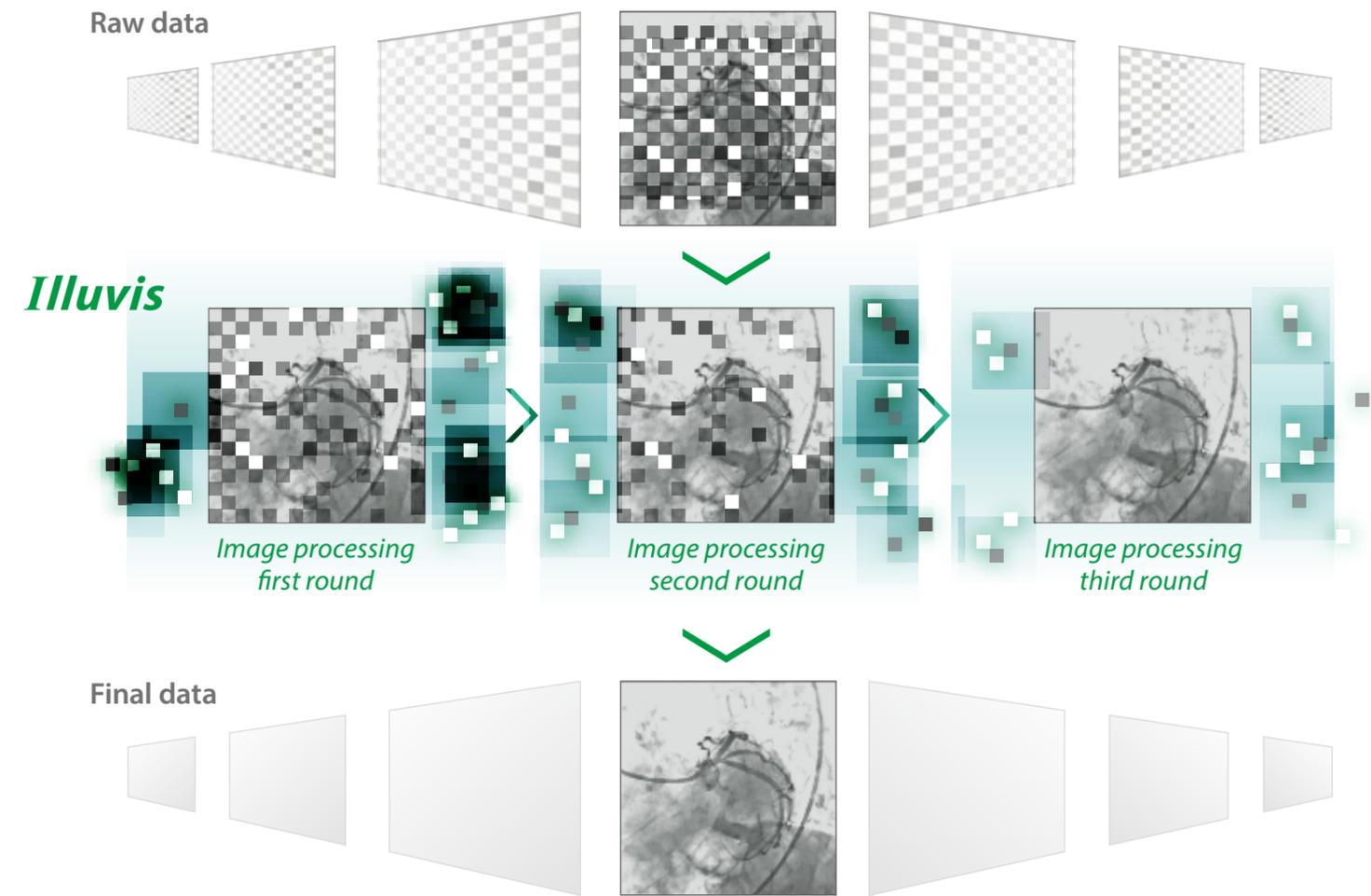
Dedicated Cardiac Tube

X-ray tube Performance



* Dedicated Cardiac Tube is available for Alphenix Core + (8", 12"), Alphenix Biplane (8", 12") and Alphenix Sky (8", 12")

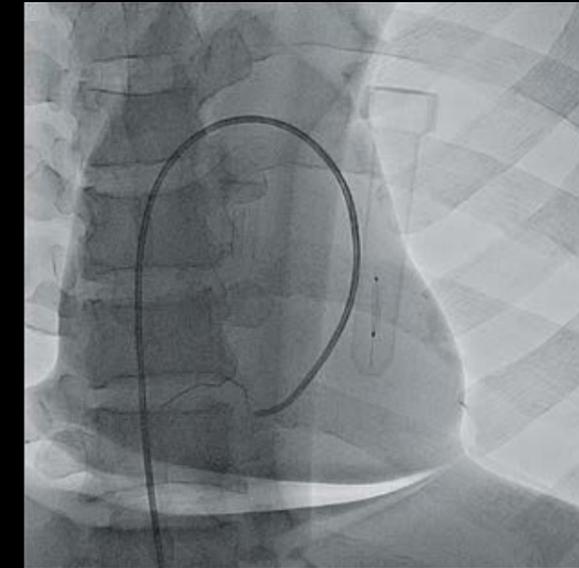
Powerful imaging and processing tools



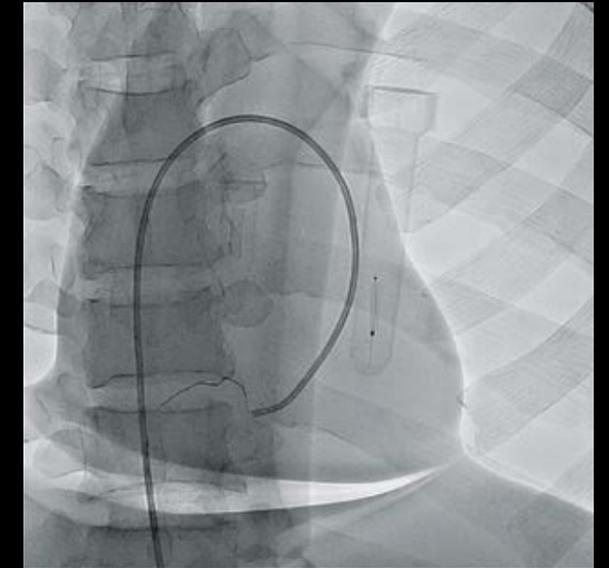
Illuvis technology takes advantage of new hardware and software improvements to reduce noise, enabling you to see through the clutter. Each frame is triple-processed in real-time to reduce background noise and enhance features.

ROI control

This function automatically senses excessively bright areas in the ROI, such as the lung fields, and excessively dark areas, such as the vertebral bodies and the diaphragm, and calculates the appropriate X-ray conditions.



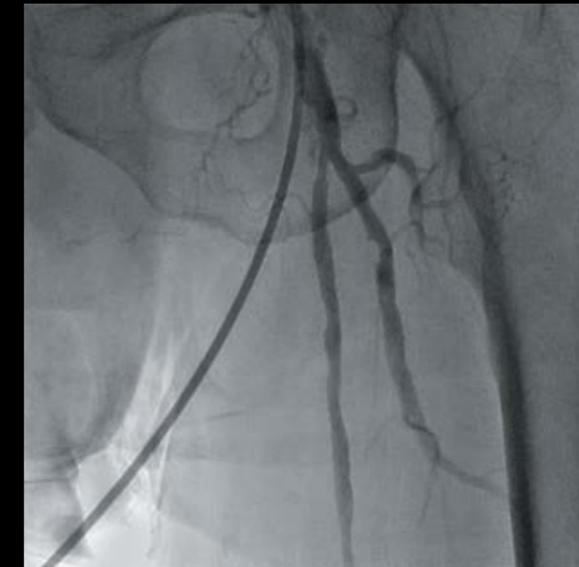
Conventional processing method



ImagingRite

Dynamic Trace

In the endovascular treatment EVT area, which is easily affected by direct X-rays, it is possible to acquire vascular images in which the effect of bones overlapping blood vessels is significantly reduced while maintaining stable image quality with no variation in brightness.



Without Dynamic Trace



With Dynamic Trace

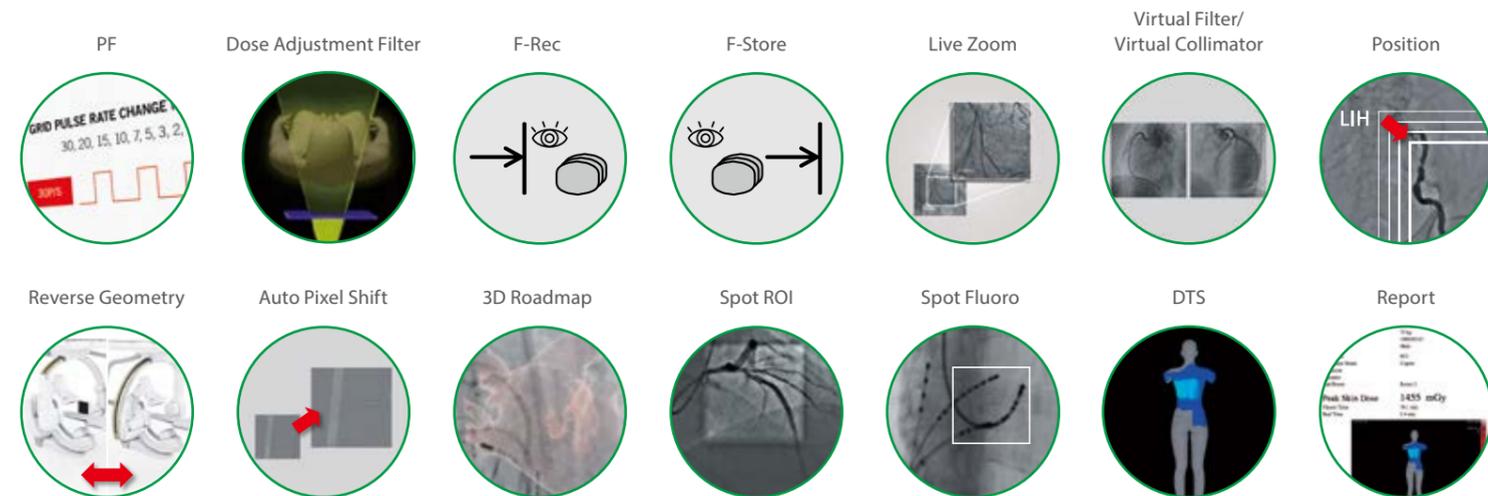
Optimize exposure dose while delivering high-quality imaging

Including:

- X-ray beam filter to reduce patient dose and scatter radiation
- Removable grid
- Live zoom to digitally increase image size without performing field of view magnification
- Variable dose mode to pre-programmed combinations of pulse rate, dose level and image processing parameters
- Virtual collimation and filtration to adjust collimation without additional fluoroscopy



Dose Management for Everyone.



Asymmetric collimation allows reductions in patient dose

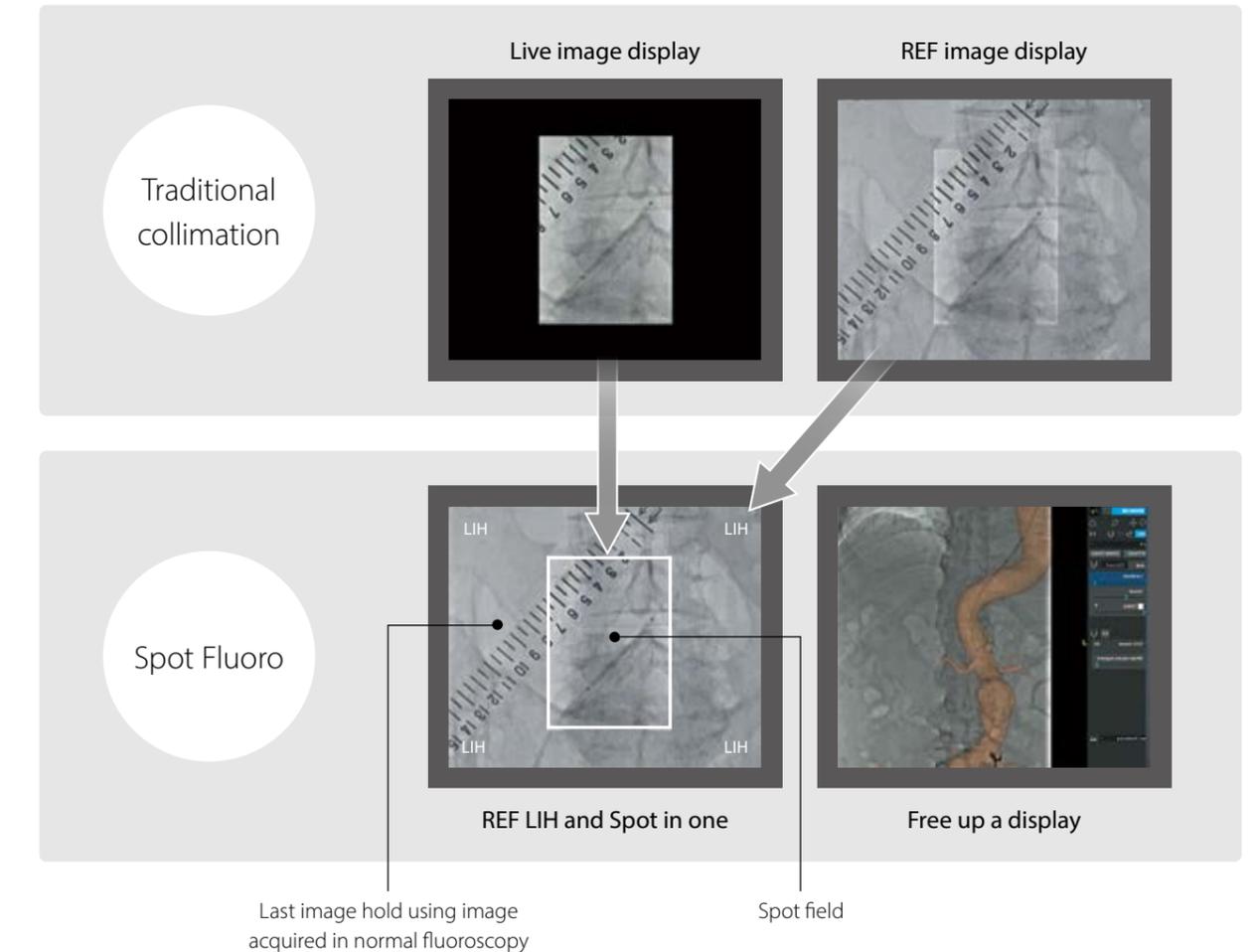
Spot Fluoro: Industry's first spot fluoroscopy technology.

Conventional X-ray collimation has two disadvantages: black areas caused by the collimator blades are distracting for the interventionist, and there is an increased exposure dose for the patient due to collimation in the ABC Region of Interest (ROI).

Spot Fluoro can reduce the cumulative dose area product by more than 50%.

Moreover, scatter radiation can also be reduced by more than 50%.

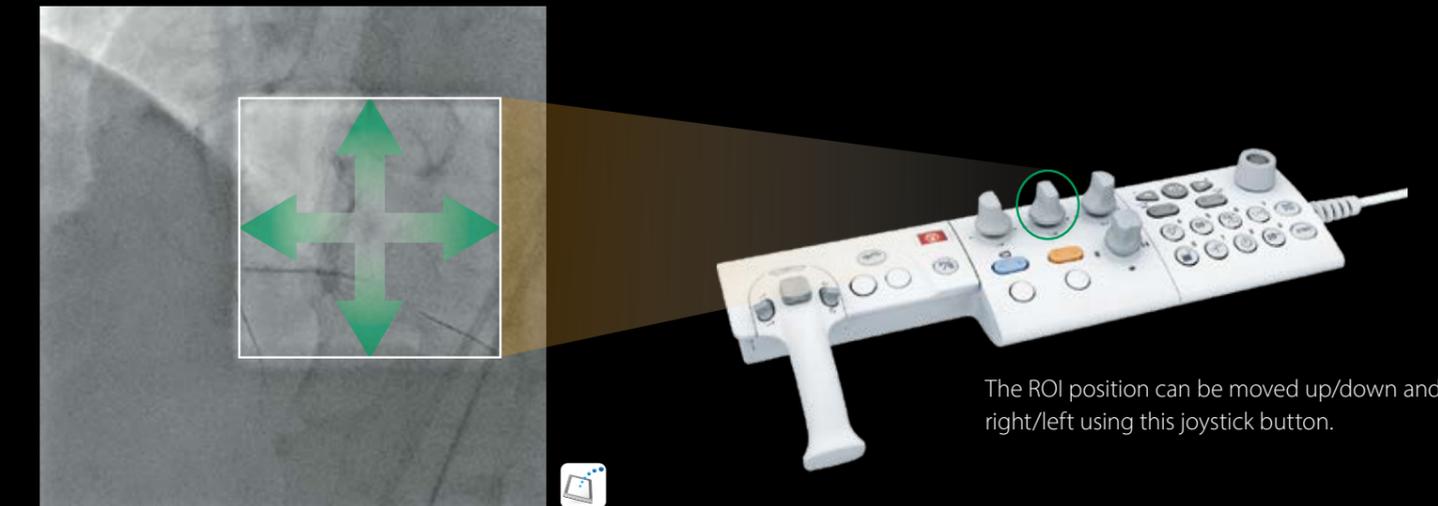
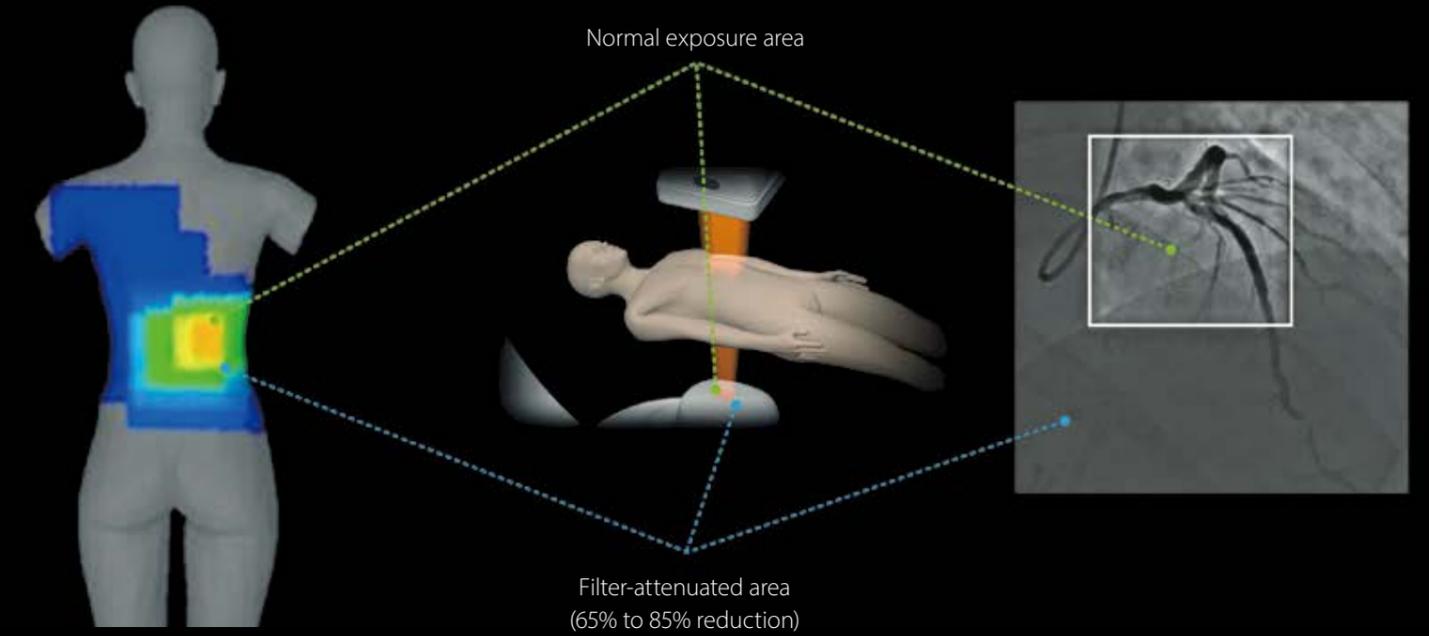
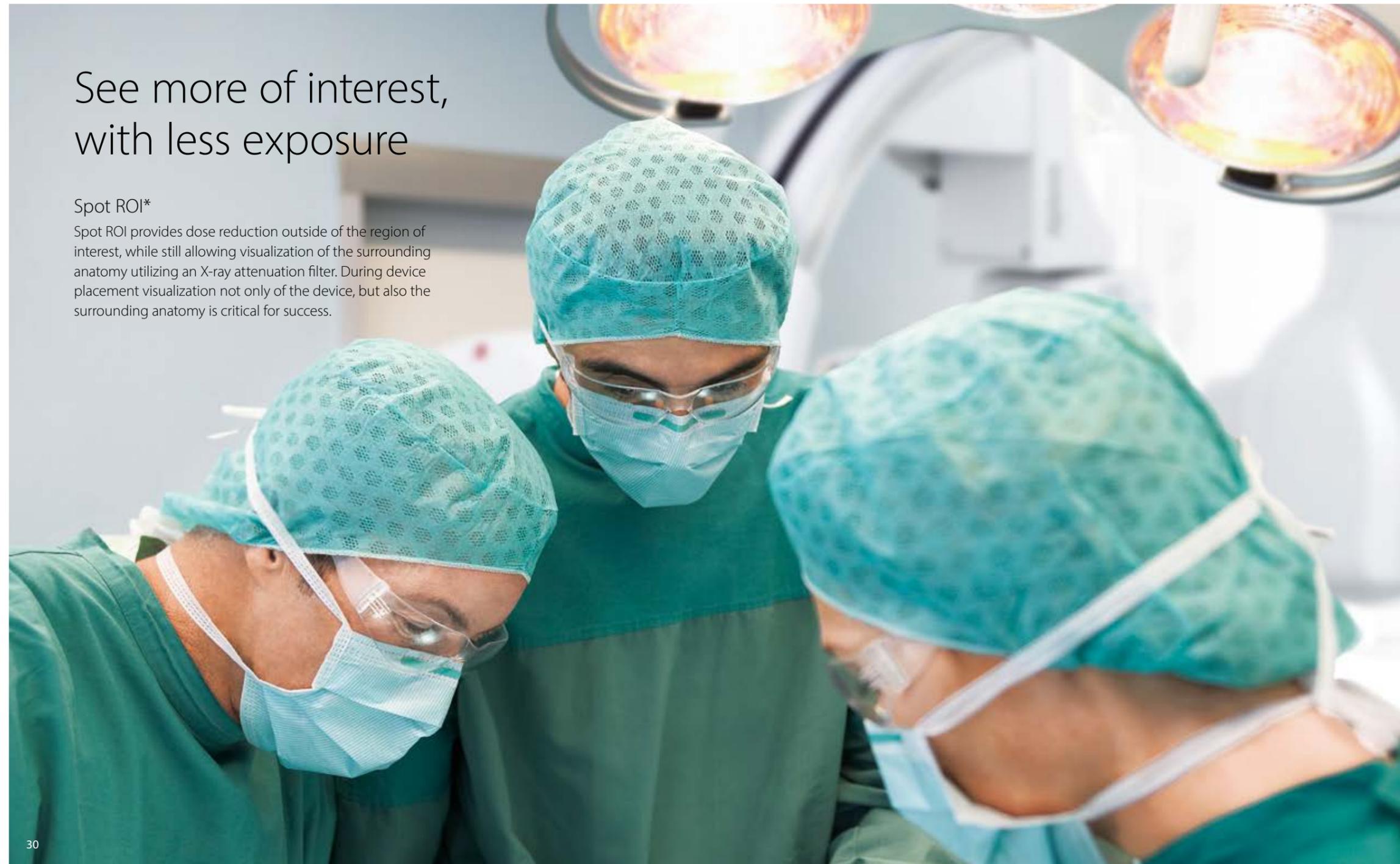
Spot Fluoro reduces unnecessary exposure and radiation burden to both the patient and the clinical staff present in the cath lab.



See more of interest, with less exposure

Spot ROI*

Spot ROI provides dose reduction outside of the region of interest, while still allowing visualization of the surrounding anatomy utilizing an X-ray attenuation filter. During device placement visualization not only of the device, but also the surrounding anatomy is critical for success.

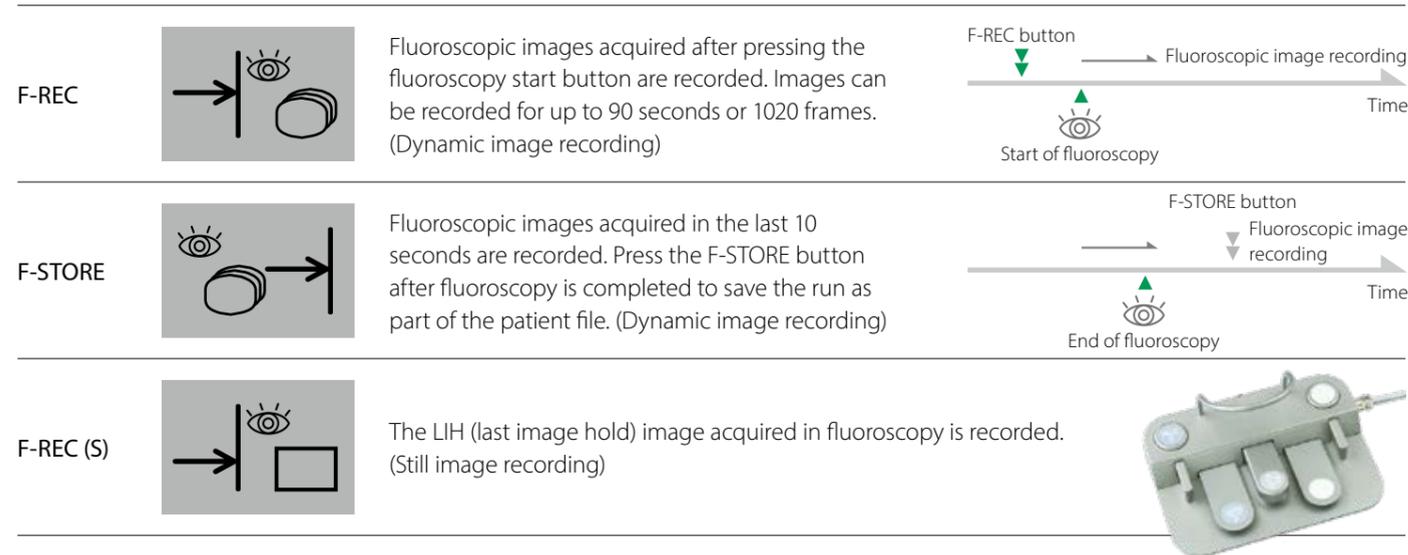


* Available for Alphenix Core +, Alphenix Biplane, Alphenix Sky, Alphenix Sky + and Alphenix 4D CT

Advanced dose management tools

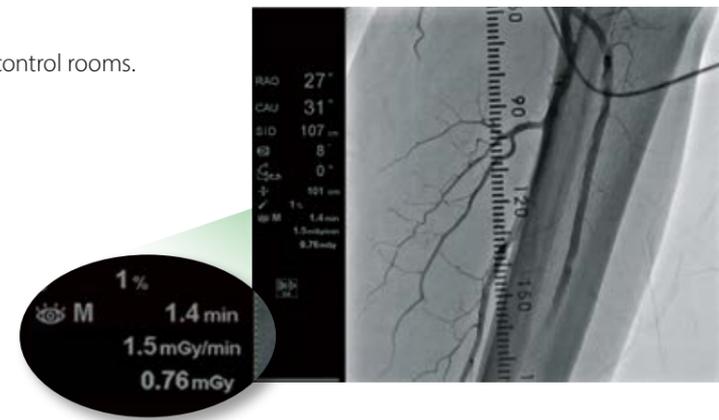
Fluoroscopic acquisition

Using the footswitch, the operator can capture still and dynamic images for future reference.



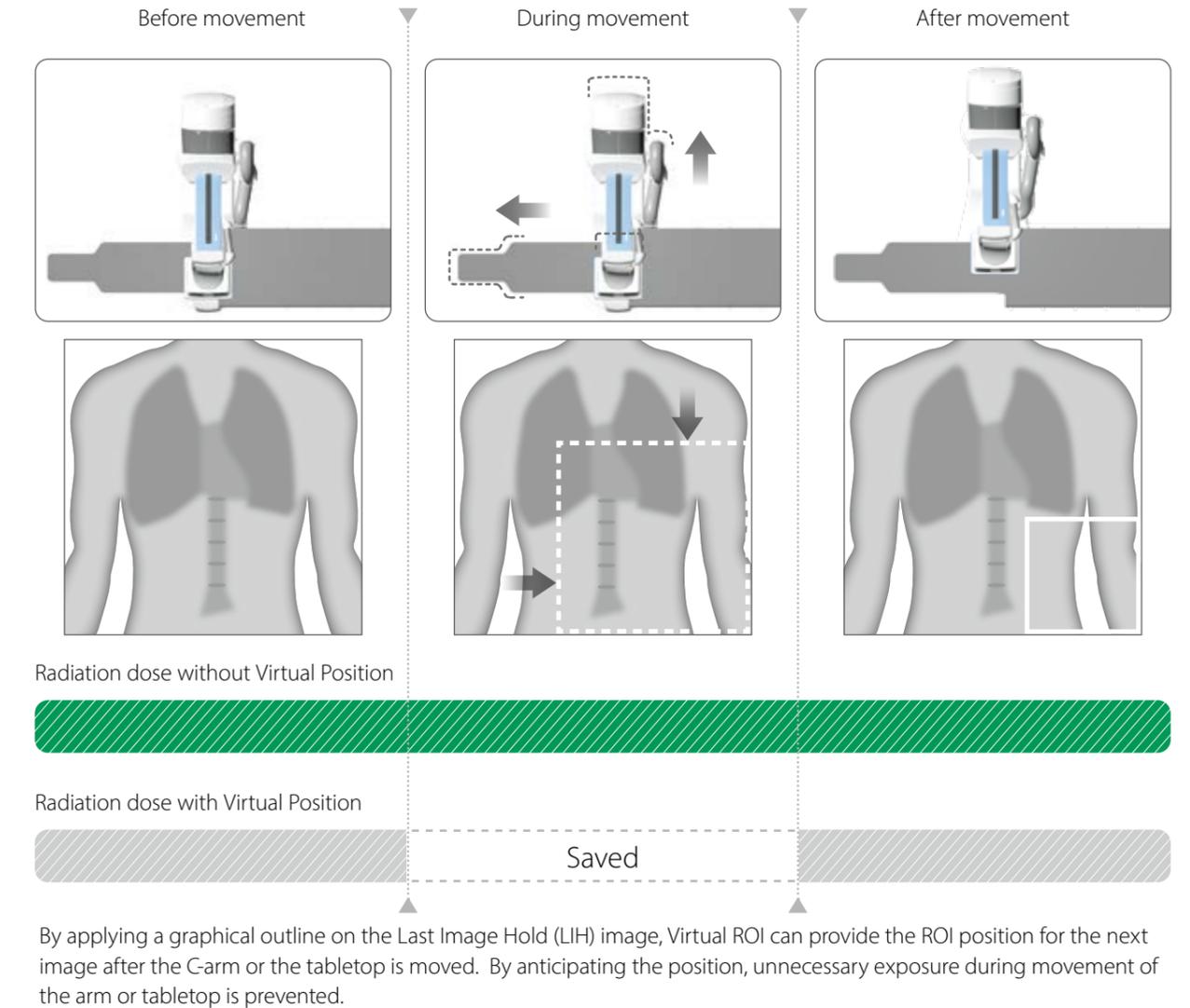
Real-time display of exposure dose

The operator can observe real-time dose levels on a digital display in the examination and control rooms.



Virtual Position

Virtual Position provides the desired ROI for the next image using Last Image Hold (LIH) while panning the table or during C-arm movement, enabling the operator to avoid unnecessary X-ray exposure.



Visualize estimated peak skin dose in real-time, and act on it

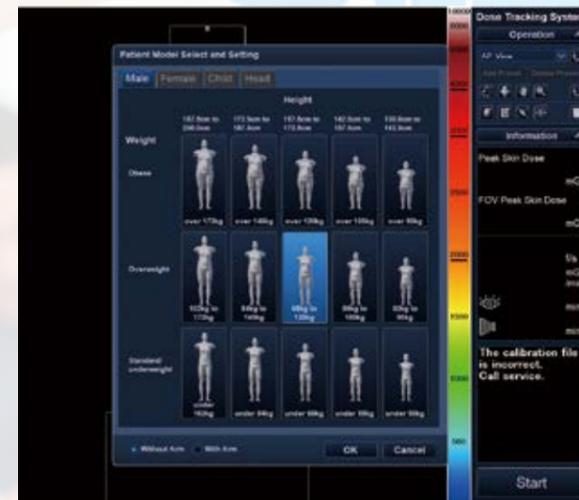
Dose Tracking System* (DTS)

Visualize and record in real-time

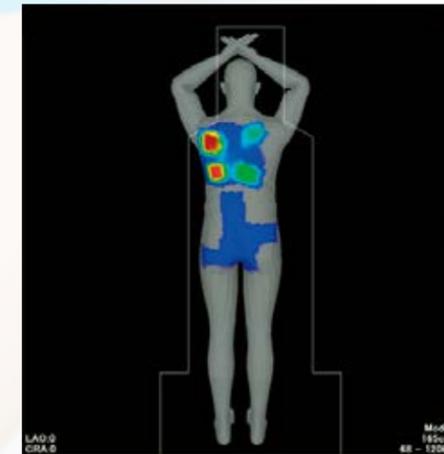
Enhanced dose awareness is available through the DTS tool, providing estimated skin dose in real-time. Displayed as a 3D color map on a realistic patient graphic, this data can be used to exclude regions of previous high exposure both during and in subsequent procedures.

Guide the procedure

Each patient's estimated peak skin dose is represented on a 3D color map. Live data can be displayed allowing the clinical staff to avoid regions of previous high exposure. During long procedures, such as PCI, CTO or EP, the operator can choose alternative approaches to optimize patient radiation dose while continuing the treatment.

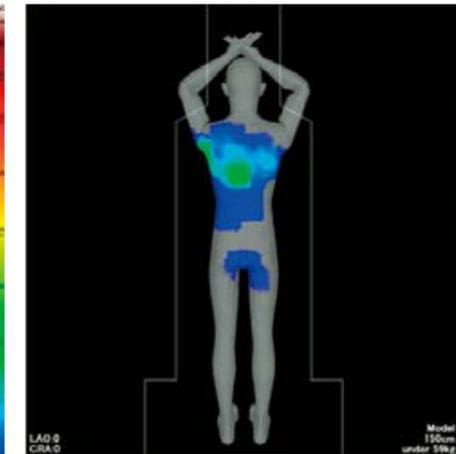


Multiple 3D patient models are defined in advance and a patient model is selected for each study.

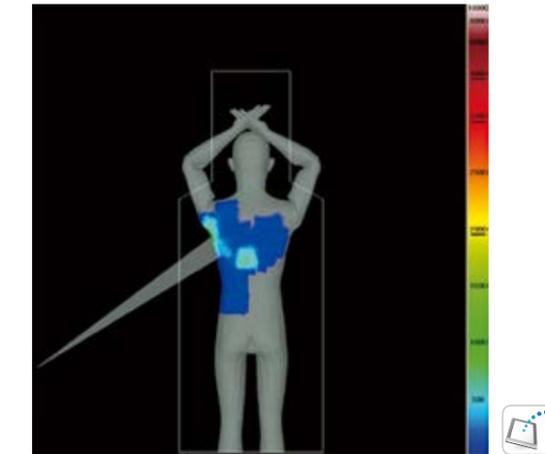


without DTS

With DTS, the operator can choose different angulations during long procedures, such as CTO, to avoid regions.



with DTS



Visualize the accumulated estimated peak skin dose across the patient's body.

* option

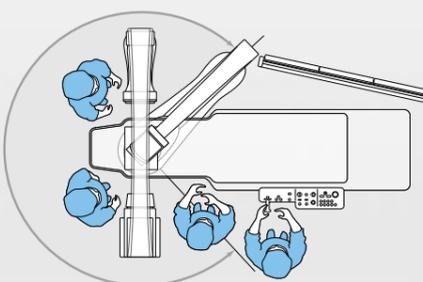


Work with unprecedented access

Unique multi-access floor and ceiling mounted C-arm positioners were developed through extensive collaboration with leading clinicians. This resulted in designs that optimize C-arm positions in order to assist clinicians in providing optimal patient care.

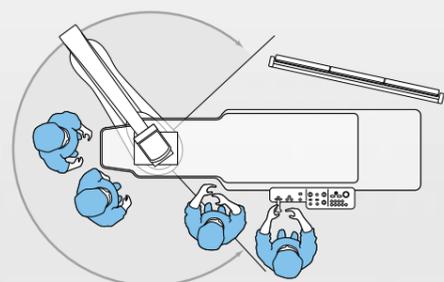
Alphenix Biplane

Multi-access biplane system
Combining the exceptional flexibility of a floor-mounted and ceiling-mounted C-arm combination, the biplane system is an ideal choice for vascular and neuro diagnostic and interventional procedures.



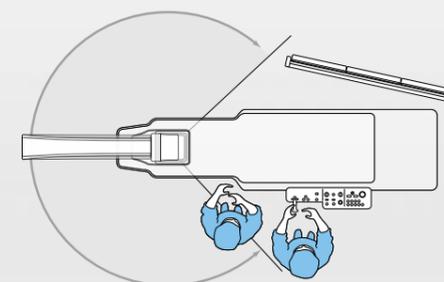
Alphenix Core+

Floor-mounted multi-access single-plane system
Providing flexible patient access, the 5-axis floor-mounted C-arm is ideally suited for a wide range of applications.



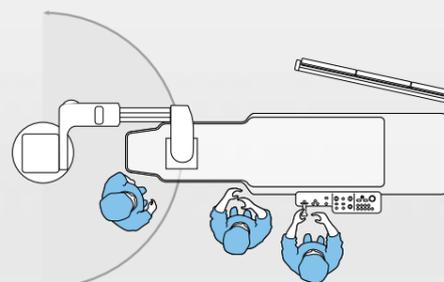
Alphenix Sky

Ceiling-mounted system
Unique ceiling-mounted C-arm offers motorized longitudinal and lateral coverage to support upper extremity examinations.



Alphenix Core

Floor-mounted single-plane system
The compact C-arm system to provide high-resolution images for precise interventional procedures.





Approach toward an eco-conscious design

While our goal is to continue to bring innovative new products to the market, we do so in a conscientious way and with the intention of contributing to a sustainable global environment.

Based on a product development and design process that complies with IEC 60601-1-9 “Environmental product design for medical equipment”, we are implementing sustainable practices focused on energy, resource, and space saving, the use of recycled materials, the reduction of hazardous materials, improving product recyclability and minimizing packaging materials, and more. These efforts cover the entire product life cycle, from production to disposal. We are also working on eco-design, including innovations to increase the user efficiency of our products in order to improve the productivity of our customers' examinations. Our products comply with ErP, REACH, and RoHS.

How to Use the medicalAR App

Images with the  icon can be viewed in motion.
To download the app, scan the code or visit our website:
<https://global.medical.canon/about/medicalAR>



① Launch the app and start AR Camera.



② Scan a page that includes image with the  icon.



③ When a trigger image is captured, linked content will be displayed.

Canon

CANON MEDICAL SYSTEMS CORPORATION

<https://global.medical.canon>

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Made For life