SPECIAL

visions

MAGAZINE FOR HEALTH PROFESSIONALS
Global Edition // Interventional X-Ray // No 08 // November 2023

Interventional X-ray

Canon

// EDITORIAL

Dear Readers,

I would like to express my deepest gratitude to all medical professionals for their hard work and for always giving their best under pressure in tense clinical situations.

This is the 8th edition of our VISIONS Special on Interventional X-ray, which features the voices of users of our angiography systems.

We at Canon Medical Systems believe it is our responsibility and our core mission to continuously deliver the best possible medical technologies and solutions as well as safe and reliable medical equipment.

In this edition, our customers discuss their personal experiences with the innovative technologies and functions provided by Alphenix and also describe how they use their systems in actual clinical practice. Various activities of Canon Medical around the world for our customers are also introduced.

In August of this year, we released the Alphenix / Evolve Edition.
The Alphenix / Evolve Edition has many advanced features based on our αEvolve Technology to improve clinical workflow and minimize strain on both patients and healthcare professionals. Various aspects of αEvolve Technology are also introduced in this edition.

I hope you enjoy reading this edition of VISIONS.

Made for patients. Made for partnerships. Made for you.
Made for Life.

Kunitoshi Matsumoto
General Manager, Vascular Systems Division,
Canon Medical Systems Corporation

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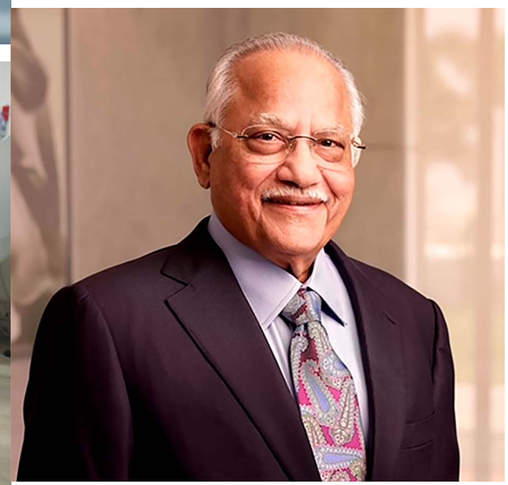
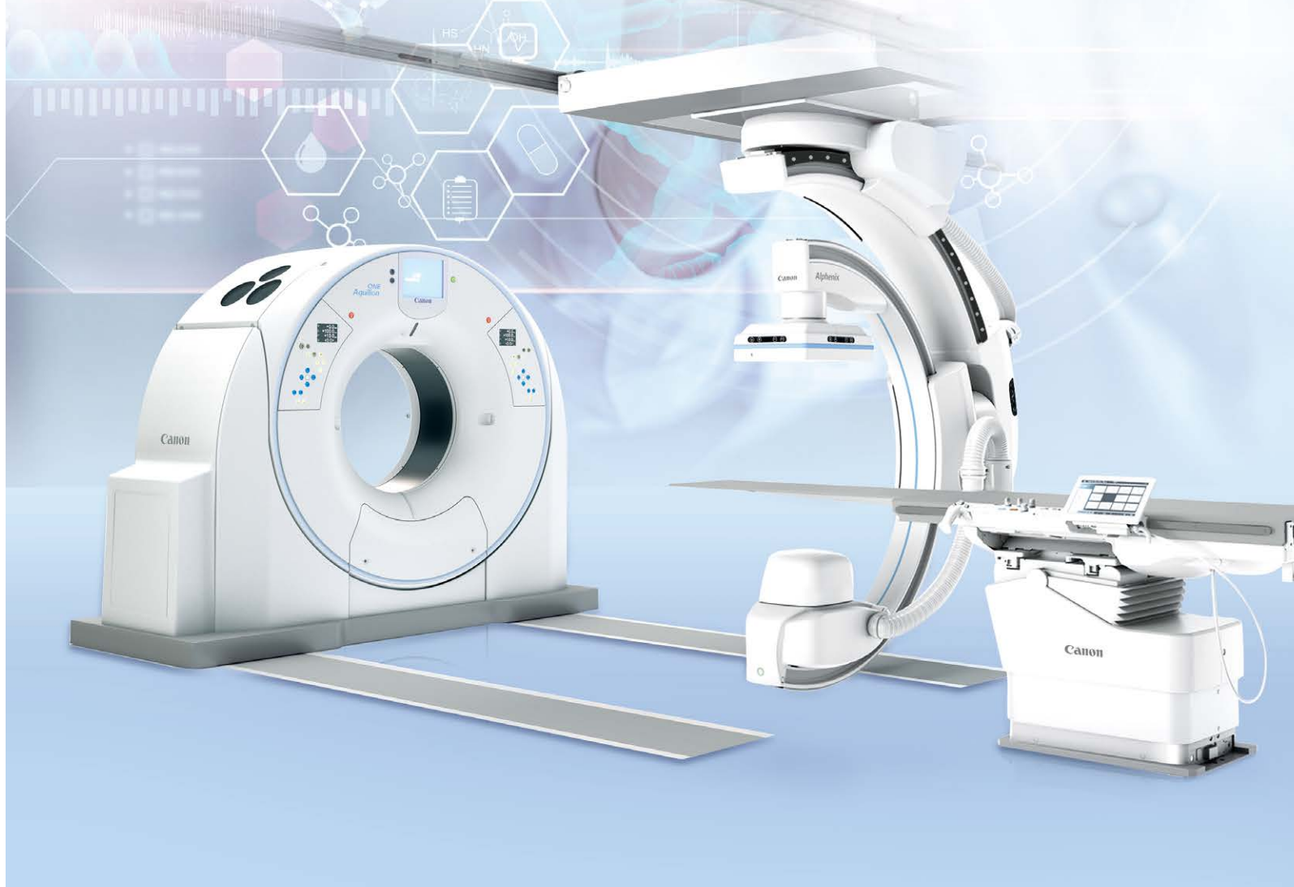


Alphenix Shipment Exceeds 1,000 – More and More Alphenix Users Across the World

September 2023 was a milestone month for Canon Medical, during which the number of Alphenix shipments worldwide reached 1,000. To celebrate this achievement, we held a ceremony in Nasu factory, at our headquarters in Japan where Canon Medical Systems' President and CEO, Mr. Takiguchi, joined other Canon Medical Systems Executives in making congratulatory presentations.

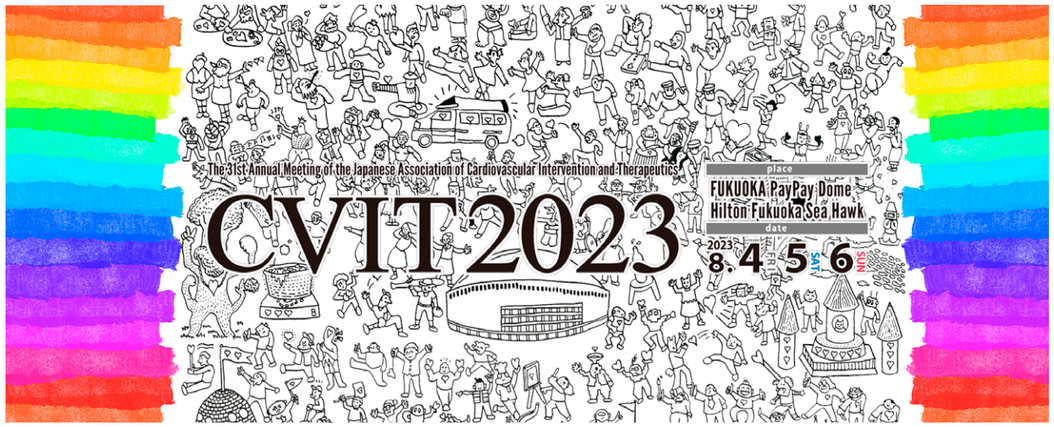
The Alphenix series has continuously evolved since its release in 2018. This August, Alphenix / Evolve Edition was launched with our latest AI technology, powered by Altivity, to further help clinicians in interventional cardiology.

Shipment of the 1,000th Alphenix is a milestone worth celebrating as Canon Medical continues to produce innovative solutions for patients and healthcare professionals. We are truly grateful for the support of our customers and colleagues around the world. //



The Unveiling of the Alphenix / Evolve Edition and its World's First Live Demonstration Given in Japan

Canon Medical Systems introduced its latest X-ray angiography system – Alphenix / Evolve Edition, on August 4 at the 31st Annual Meeting of the Japanese Association of Cardiovascular Intervention and Therapeutics (CVIT2023), which was held in Fukuoka, Japan from August 4 to 6.



Alphenix / Evolve Edition prior to its unveiling at CVIT2023

Alphenix / Evolve Edition Meets Advanced Needs in Cardiology

The newly released Alphenix / Evolve Edition is a completely new system designed specifically for use in the field of cardiovascular medicine.

Therapeutic techniques for treating coronary artery disease have advanced in recent years, and coronary intervention (catheterization) procedures have become more complex. Consequently, there is an increasing demand for improved performance and functionality in angiography systems, which are indispensable in catheterization procedures.

Alphenix / Evolve Edition supports increasingly advanced catheterization techniques thanks to cutting-edge image processing based on Deep Learning technologies*1 and various, recently developed technologies for the Alphenix series. These include αEvolve Imaging, a new feature that supports cardiovascular treatment.

**1 Deep Learning technologies were employed in the development stage of this system. The system itself does not incorporate Deep Learning functionality*

αEvolve Imaging

αEvolve Imaging is a new image-processing technique based on Deep Learning technologies. It reduces noise in fluoroscopic images in real-time, while increasing the contrast and visibility of devices such as guidewires, coronary stents, and contrast-enhanced vessels.

While Deep Learning technologies have already been adopted and refined in our CT and MR systems, requirements for real-time processing has made it challenging to apply these technologies in angiography systems.

αEvolve Imaging is a technical solution to address this issue. It provides images that meet the needs of medical professionals and enables them to focus on diagnosis and treatment. In addition, αEvolve Imaging ensures acceptable image quality for performing catheterization procedures, even under low-dose conditions, making it possible to minimize radiation exposure.

Unveiling Alphenix / Evolve Edition

The Japanese Association of Cardiovascular Intervention and Therapeutics (CVIT), one of Japan's largest cardiovascular societies, held its 31st annual meeting this year. The meeting was held at two separate venues in Fukuoka, Japan: Stadium in Fukuoka and The Hilton Fukuoka Sea Hawk.

This year's conference was the largest and most anticipated ever. The President of the Annual Meeting, Dr. Hiroyoshi Yokoi of Fukuoka Sanno Hospital, ensured that the meeting was a fully face-to-face event – a 'first' since the outbreak of COVID-19. More than 1,500 applications for oral presentations were submitted, and more than 30 cases were presented as live demonstrations. At this especially exciting CVIT meeting, Canon Medical unveiled its newest product, Alphenix / Evolve Edition, in celebration of its release.

When the crowd completed the countdown, the veil covering the new product was lifted, and the crowd erupted in enthusiastic applause. Even though it was early on the first day of the meeting, we shared the global launch of the system with many people, including customers and media, who had gathered in great numbers. Mr. Kunitoshi Matsumoto, Manager of Canon Medical Systems' Vascular Systems Division, and Mr. Makoto Koyashiki, Group Manager of Canon Medical Systems' Vascular Sales Engineer Group, described the advanced technologies and new features of Alphenix / Evolve Edition and its expected impact on cardiovascular treatment.

Overall, the Alphenix / Evolve Edition launch event was a great start for ensuring that the Alphenix / Evolve Edition gains widespread acceptance in the cardiovascular market.

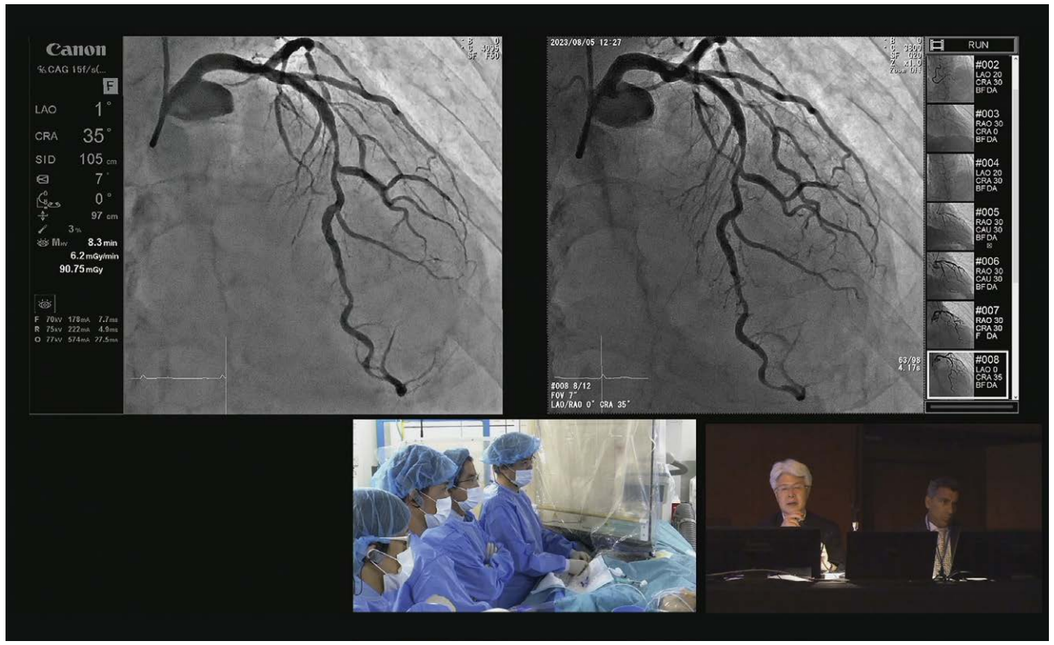
World's First Live Demonstration of Alphenix / Evolve Edition

On August 5, the day after the release of Alphenix / Evolve Edition, a live demonstration of its new αEvolve Imaging feature was provided at Fukuoka Sanno Hospital, Fukuoka, Japan.

αEvolve Imaging is a completely new image processing technology that utilizes Deep Learning to reduce noise in real-time. The technology was demonstrated by Dr. Hiroyoshi Yokoi (Fukuoka Sanno Hospital), a leading physician in the field of cardiovascular medicine and the President of CVIT2023. This was the world's first live demonstration of αEvolve Imaging, during which, Dr. Yokoi made many positive comments. He mentioned that there is: "Less noise and better visibility of wires and other devices" with the feature, and commented on the ease of performing procedures with αEvolve Imaging.

In addition, we welcomed Dr. Takao Ohki as 3rd operator from The Jikei University School of Medicine, a prominent figure in the field of vascular surgery. His initial comment was that the images were "as beautiful as DA images". That was the moment we became convinced that the concept we had been working on for a long time, the use of Deep Learning to raise the quality of fluoroscopic images to the level of radiographic images, was achieved and effectively meets the needs of customers.

During the live demonstration, Alphenix's conventional image processing was compared with the latest image processing by αEvolve Imaging. The audience easily recognized its true potential to improve image quality, providing an excellent opportunity to promote the new feature.



Live demonstration using αEvolve Imaging
Left: Fluoroscopic image using αEvolve Imaging, Right: Digital Acquisition (DA) Image

CVIT2023 at Stadium in Fukuoka

CVIT2023

There are few opportunities to exhibit actual angiography systems at cardiovascular conferences, and we received strong interest from many customers. The Canon Medical booth was located just inside the entrance of Stadium in Fukuoka. Therefore, it was easily noticed and attracted a great deal of interest.

The main theme of this annual meeting was: 'Sustainability Development Goals (SDGs) for Intervention'. Canon Medical's new efforts and values regarding intervention, based on the two major themes of making intervention sustainable for the next 10 to 20 years and communicating from Japan to the Asian Region, were conveyed to visitors and the media, who spread them to the world. //

Learn more:

Alphenix / Evolve Edition press release
https://global.medical.canon/News/PressRelease/Detail/136427-834

Alphenix / Evolve Edition website
https://global.medical.canon/products/angiography/alphenix-evolve-edition

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aEvolve Technology

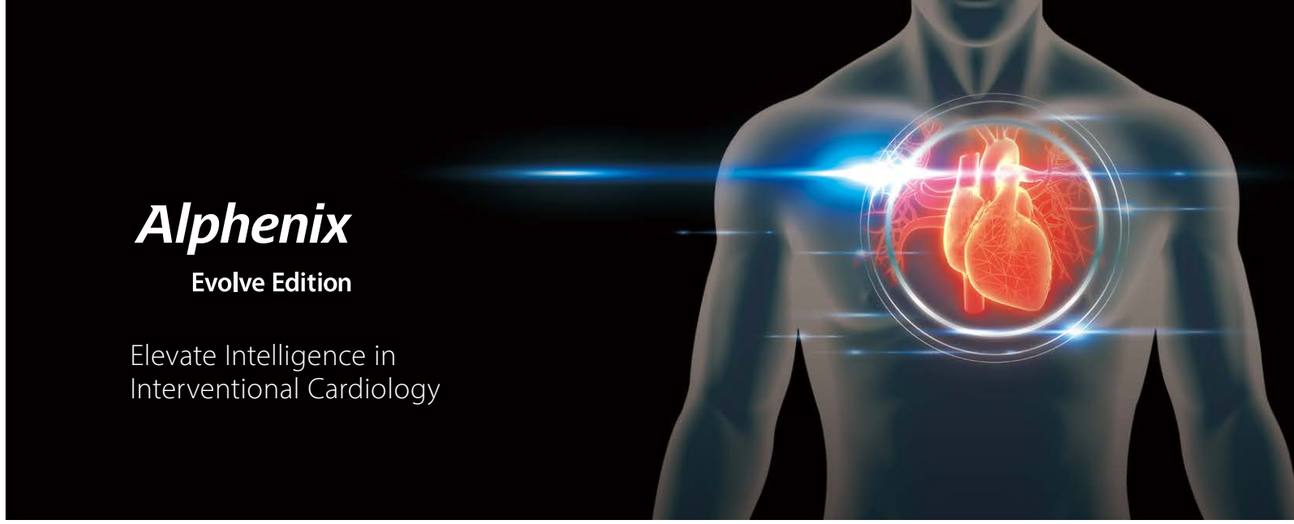
Alphenix / Evolve Edition: Intelligent Solutions Powered by aEvolve Technology

Introducing Altivity, our bold new approach to AI innovation that uses smart technologies to make a whole new level of quality, insight and value across the entire care pathway possible.
Designed specifically to address the growing complexities of interventional cardiology we developed αEvolve Technology. Leveraging Artificial Intelligence, αEvolve Technology provides innovative solutions to support high quality, safe and efficient diagnosis and treatment while improving the experience for patients and healthcare workers.

Altivity

https://global.medical.canon/

Introducing the Alphenix / Evolve Edition – Our Newest Interventional Cardiology Imaging Solution



On August 7th at 19:00 CEST, the global launch video of the Alphenix / Evolve Edition was released online. This is to introduce customers around the world our new and innovative solution in interventional cardiology.

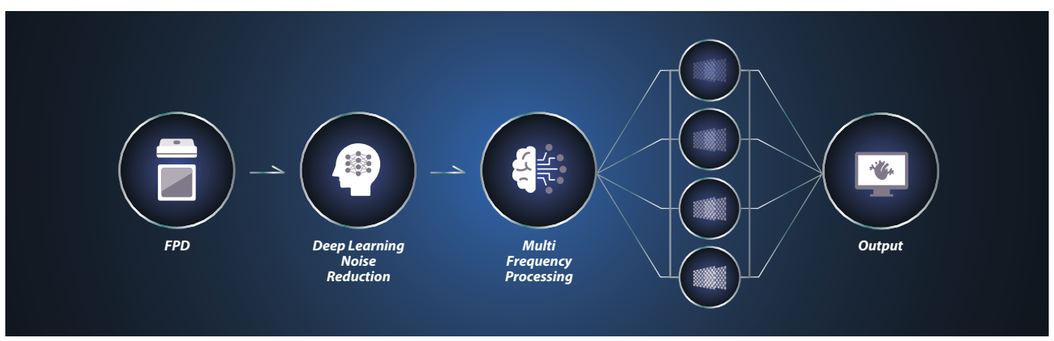
As the number of patients requiring cardiovascular treatment continues to increase due to aging populations and the rising prevalence of lifestyle diseases, interventional cardiology departments are facing ever more challenging clinical requirements, financial pressures, and demands for higher efficiency as the number and complexity of cases continue to increase. To meet these challenges, we have developed a new interventional cardiology imaging solution.

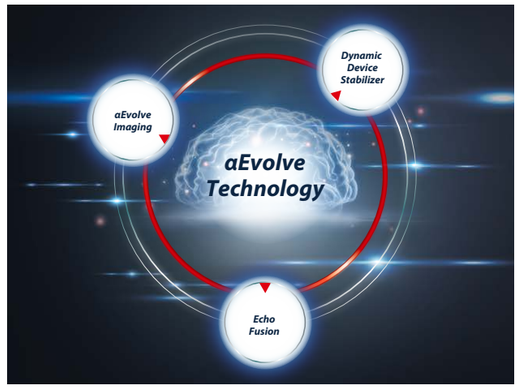
Utilizing real-time Deep Learning technology, the Alphenix / Evolve Edition is designed to improve imaging while enabling reduced time and radiation dose exposure during routine and complex percutaneous coronary intervention (PCI) and structural heart disease (SHD) procedures, maximizing safety for both clinicians and patients. The event featured Alphenix users around the world sharing their experiences with our imaging solution.

The launch video began with a promotional video of the Alphenix / Evolve Edition, followed by an introduction of the system by Mr. Yuto Kashu, the Global Intervention X-ray Marketing Manager. Three intelligent AI-based technologies (αEvolve Imaging, Echo Fusion and Dynamic Device Stabilizer) powered by Altivity and packaged as αEvolve Technology provide real-time assistance for key diagnostic and therapeutic decision-making in an efficient workflow.

See Clearer, in Real-time, with αEvolve Imaging

The highlight of αEvolve Technology is αEvolve Imaging, which employs Deep Learning-based* noise reduction and multi-frequency processing to deliver a contrast-to-noise ratio up to two times higher than conventional image processing. This contributes to consistently high image quality while maintaining a low dose.





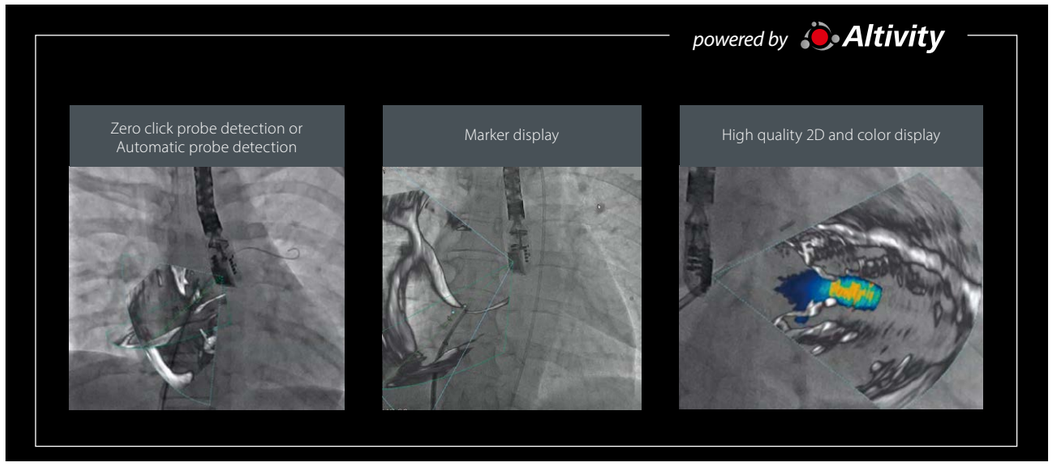
Mr. Yuto Kashu, Global Intervention X-ray Marketing Manager, Canon Medical Systems

The exceptional clarity and sharpness of interventional X-ray images produced with αEvolve Imaging help doctors see devices more clearly, in real-time, during interventional procedures. This benefit noted in the launch video by Ms. Yi Hu, Senior Imaging Scientist at Canon Medical Research USA (CMRU), helps resolve various clinical challenges. She also explains, "Fluoroscopy images are noisy and blurry. Getting rid of high noise and blurriness using traditional image processing algorithms is challenging. The key to the solution is to build a model that contains good knowledge of the real-world information. This is what AI is good at."

**αEvolve Imaging does not include a self-learning function. Its algorithm is not trained at the end user's site.*

"αEvolve Imaging improves the clarity and sharpness of interventional X-ray images to help doctors see devices more clearly during interventional procedures."

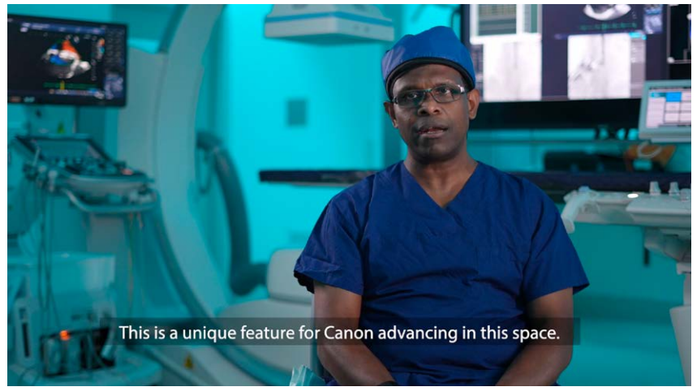
Yi Hu
Senior Imaging Scientist
Canon Medical Research USA



Echo Fusion Offers Intelligent Real-time Image Guidance for Structural Heart Procedures

The second highlight of αEvolve technology is Echo Fusion, which utilizes Deep Learning technology to help achieve a smoother workflow in structural heart procedures. It automatically identifies the echocardiography probe and efficiently fuses the fluoroscopic and echo images without additional operator input.

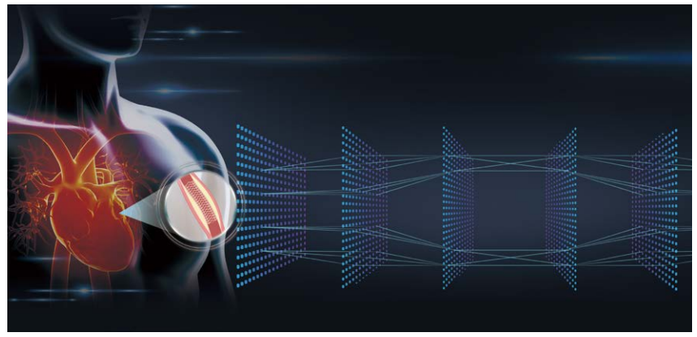
Dr. Sanjeevan Pasupati of Waikato Hospital in New Zealand comments in the launch video, "It gives us more confidence knowing there is a higher degree of accuracy of the fused images because of the continuous re-registration when the C-arm is moved."



Dr. Sanjeevan Pasupati speaking on Echo Fusion

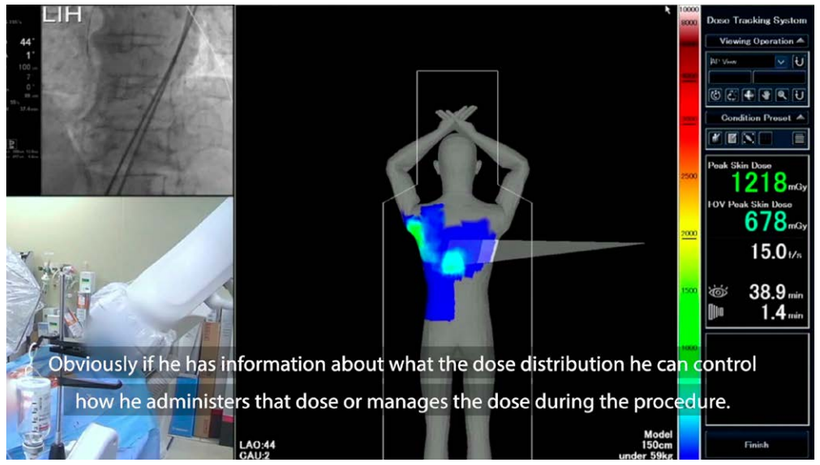
Dynamic Device Stabilizer (DDS) Redefines PCI Treatment with Stent Enhancement Visualization

The final highlight of αEvolve technology is Dynamic Device Stabilizer (DDS), which is trained with Deep Learning to automatically detect balloon markers in real time, magnifies and stabilizes the image on a separate screen to assist in stent visualization and assessment during complex PCI procedures. This significantly improves the workflow and accuracy while maintaining a dose



"similar to live fluoroscopy with no processing delay," states Dr. Pasupati.

In addition to these three αEvolve technologies, the Alphenix / Evolve Edition incorporates a range of unique features that are helpful in routine interventional cardiology procedures.



Dose Tracking System (DTS)

One-of-a-kind Dose Tracking System for Optimized Dose Management

Our Dose Tracking System features real-time monitoring and visualization of estimated skin dose on a human model, providing physicians with detailed information and allowing them to avoid areas of high radiation exposure.

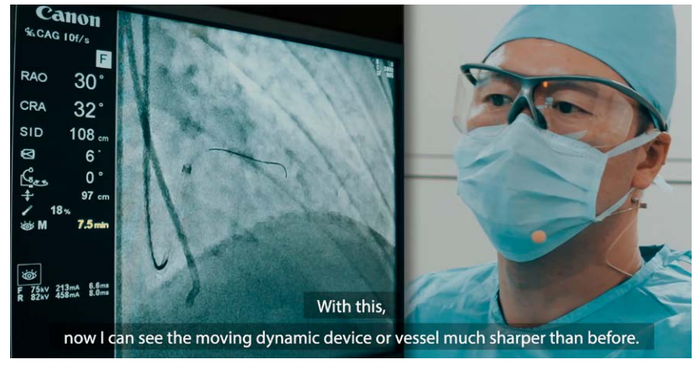
Dr. Daniel Bednarek of Gates Vascular Institute in the USA also appears in the launch video and remarks on how unique the Dose Tracking System is. "There are no other systems available which can provide the accuracy and resolution for displaying the dose distribution in real-time during a procedure."

Dr. Daniel Bednarek commenting on Dose Tracking System (DTS)

Impressive Image Quality for Cardiac Procedures – Dedicated Cardiac Tube

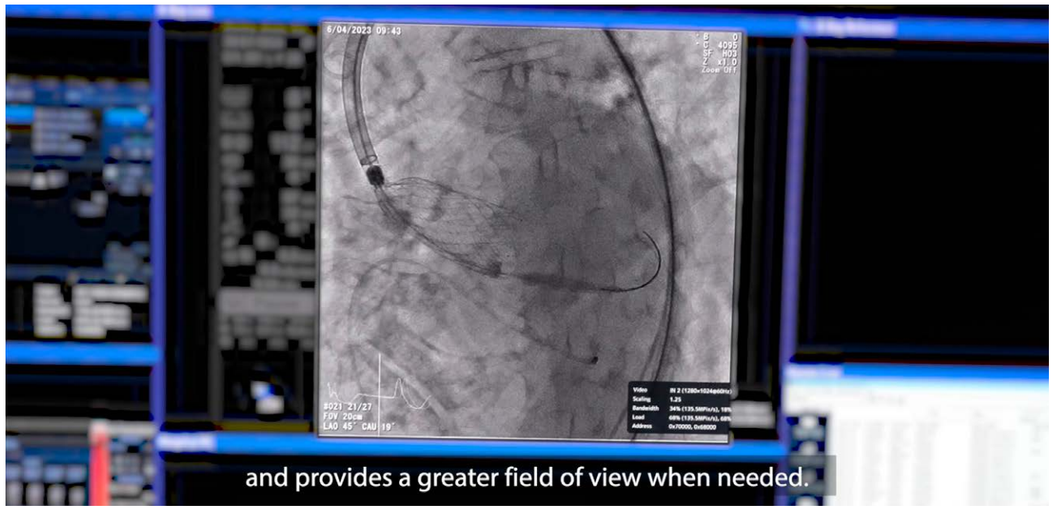
Our Dedicated Cardiac Tube has been developed to support cardiac procedures. It provides sharp images with maximized output, even in bariatric patients and at steep C-arm angles. In addition, the rapidly moving coronary arteries' motion blur can be minimized by reducing the pulse width.

In the launch video, Dr. Takafumi Tsujii of Kusatsu Heart Center observes, "The image quality of fluoroscopy is impressive. Previously, whenever we needed



Dr. Takafumi Tsujii speaking on Dedicated Cardiac Tube

to record an image, we had to stop what we were doing to perform acquisition. But because the image quality of fluoroscopy is great with the current system, and it can retrospectively record fluoroscopic images whenever we want, we no longer perform acquisition every time, which has improved our workflow dramatically."



Compact with a Large Field of View, the 12-inch FPD is the Best of Both Worlds

As interventional procedures become increasingly diverse, a wider variety of patients must be treated in a limited number of Cath Labs. Smaller detectors are standard for PCI, but larger detectors can support a wider range of procedures, such as SHD and peripheral interventions. Thanks to a compact housing, the unique 12-inch FPD in the Alphenix series offer a highly effective solution for PCI while providing excellent flexibility for treating other anatomy as required.

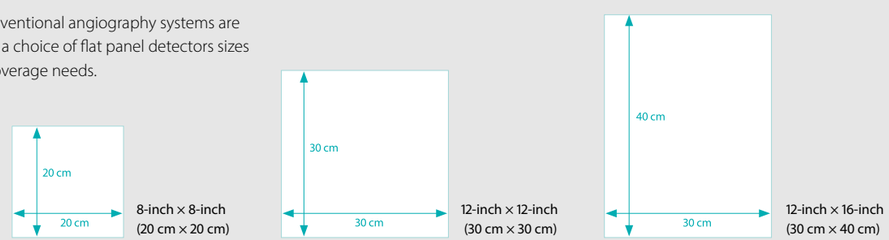
Dr. Masahiko Asami of Mitsui Memorial Hospital in Japan praises the benefits of the 12-inch (30-cm) FPD in the launch video and says, "Canon's compact 12-inch detector is economically friendly for us."

Dr. Pasupati also asserts, "Canon has one of the slimmest detector housings, which eliminates bulkiness and provides a greater field of view when needed. The 30 × 30 cm (12 × 12 inch) configuration is a perfect balance and means that our lab is truly multipurpose; well suited for structural and interventional procedures."

Dr. Masahiko Asami commenting on benefits of 12-inch FPD

Choice of FPD sizes

Alphenix interventional angiography systems are available with a choice of flat panel detectors sizes to suit your coverage needs.



Streamline Your Cath Lab Workflow with QMAPP Integration

At the last part of the launch event, the Alphenix with QMAPP integration was introduced.
QMAPP, the hemodynamic monitoring system, is now integrated into the Alphenix interventional suite to optimize the cath lab workflow. It puts full hemodynamic functionality at your fingertips from the tableside and makes operation intuitive, so you can focus on your patients and deliver the best possible outcomes.

Elevating Intelligence in Interventional Cardiology

Canon Medical is confident the innovative new Alphenix / Evolve Edition will positively impact clinical success in interventional cardiology. Its practical AI technology, tremendous value and ease of use elevate intelligence in real time. //

Learn more:

Alphenix / Evolve Edition press release
https://global.medical.canon/News/PressRelease/Detail/136427-834

Alphenix / Evolve Edition launch video
https://www.youtube.com/watch?v=TUnIakS107U

Alphenix / Evolve Edition website
https://global.medical.canon/products/angiography/alphenix-evolve-edition

Note: Alphenix / Evolve Edition may not be available in all countries.

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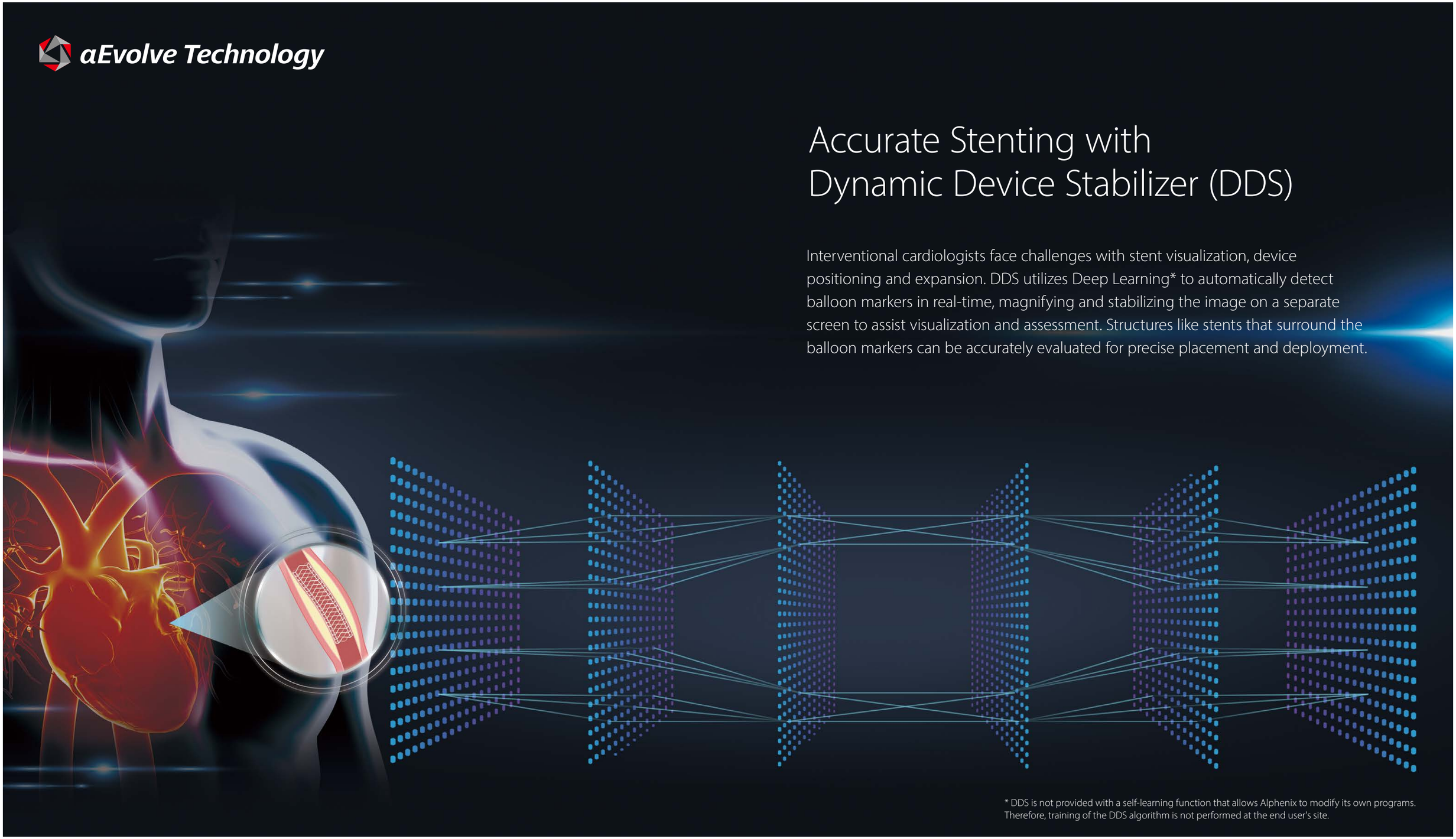
Accurate Stenting with Dynamic Device Stabilizer (DDS)

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.



* 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.

https://global.medical.canon/

Ananth Prasan MD, PhD, Cardiologist,
St George Private Hospital, Australia

Staying at the Forefront of International Cardiology Dose Regulations with DTS

With an increase in the number and complexity of catheter-based coronary interventions, there is growing concern about radiation exposure to patients and staff in cardiac catheterization labs.

Dr. Ananth Prasan was appointed staff specialist in cardiology at St George Private Hospital, Sydney, Australia, in 2003. His special interest is in managing radiation dose in the cath lab and he has co-authored several papers focused on radiation dose.

"In adult cardiology patients, coronary angiography represents just 12% of all radiology procedures, but contributes disproportionately to their collective radiation dose; 48% [1]" remarked Dr. Prasan. "Radiation exposure is also an important issue for cath lab staff. An interventional cardiologist is exposed to two to three times more radiation per year than a radiologist [2]."

"Minimizing radiation dose has always been a priority for our Department at St George Private Hospital, and we make a conscious effort to keep informed of the latest clinical radiation dose management techniques and technologies," he continued. "We were very excited to implement Canon Medical Systems' novel Dose Tracking System (DTS) when it was released ten years ago."

DTS is a patient-centric model that records the patient's skin dose in real-time, according to imaging parameters and geometry. It displays an easy-to-read color-coded representation of the cumulative skin dose distribution on a patient graphic and the real-time peak skin dose and cumulative skin dose values at the current real-time beam projection.

This provides operators with an accurate demonstration of the dose received during an examination, enabling operators to modify their approach during procedures to avoid regions where dose thresholds could be exceeded and reduce the risk of skin burns. It also provides cumulative dose information for patients who require follow-up, helping us to make an informed decision about if it is safe to proceed with a case.

"It was clear that DTS would be an effective tool to help our department in dose reduction," said Dr. Prasan. "It provides insights that you cannot gain from any other technology. However, we wanted a way to measure its effectiveness."

Dr. Prasan and his colleagues at St George Private Hospital worked at one of the world's first clinical sites to implement DTS technology. In 2016, they published their research on its impact on patient skin dose and total dose during coronary angiography and intervention in EuroIntervention, The Official Journal of EuroPCR, and the European Association of Percutaneous Cardiovascular Interventions (EAPCI) [3].

During their study, DTS was used in 1,077 patients who underwent coronary angiography, 460 of whom underwent a percutaneous coronary intervention (PCI). Peak skin was compared before and after the adoption of DTS at the site.

"The benefits of DTS were experienced across a range of patient cohorts but were particularly evident during stent insertion where there was a 46% reduction in peak skin dose [4]," said Dr. Prasan. "Its benefits were not only obvious for skin dose -DTS also proved effective in reducing the total procedural radiation dose.

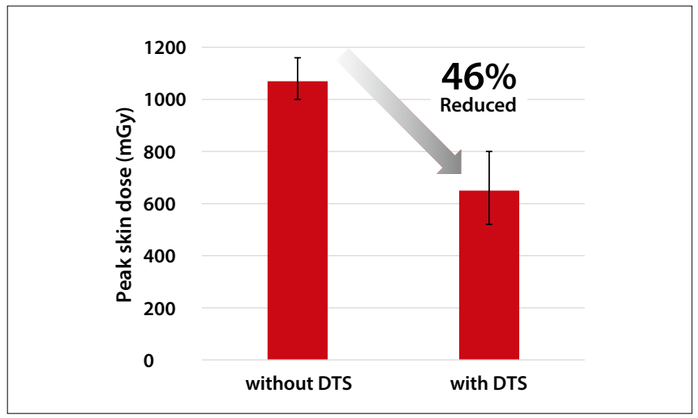


Figure 1: Reduction in peak skin dose due to DTS introduction for PCI procedures. The DTS resulted in an improvement in peak skin dose. Bars represent median and error bars 95% confidence interval.

"The benefits of DTS were experienced across a range of patient cohorts but were particularly evident during stent insertion where there was a 46% reduction in peak skin dose [4], which in turn equals lower staff dose."

Ananth Prasan MD, PhD, Cardiologist, St George Private Hospital, Australia

"Our department's ten years' experience with DTS has enabled us to be at the forefront of this trend and deliver the best patient outcomes."

Ananth Prasan MD, PhD, Cardiologist, St George Private Hospital, Australia

"The ongoing real-time feedback that DTS provides is a critical tool in helping to modify the behavior of our operators to reduce radiation dose, particularly in long, complex interventions like CTO procedures," he added. "DTS has dramatically lowered our department's total average case dose, reducing our staff's occupational radiation exposure. It is easy to implement, use, and interpret and has accelerated the learning of correct imaging parameters for new staff and registrars."

Through use of Canon Alphenix system, Dr. Prasan has access to many options for reducing dose.

"Canon has a long-standing commitment to dose reduction in interventional procedures, and it's great to see this is a priority for them. The Alphenix provides us with an arsenal of innovations to minimize radiation dose, all without impacting image quality in the region of interest," he said. "The automatic preset settings allow you to fine-tune and optimize your imaging parameters to maximize image quality and lower dose. Complex interventions are increasing, and with this comes longer cases, so the ability to adjust parameters and drop your frame rate without losing image quality becomes very important."

He has found that Canon interventional systems provide images with high temporal and spatial resolution without appearing overprocessed or artificial.

"The images provides us with a good understanding of stent placement and overlap. We can obtain optimal visualization for a wide range of patient sizes and projections with fluoroscopy and minimize digital acquisitions as much as possible," he explained.

Dr. Prasan is pleased that there is a universal trend in interventional cardiology to quantify and monitor actual patient procedural doses.

"Our department's ten years' experience with DTS has enabled us to be at the forefront of this trend and deliver the best patient outcomes," he said. "We have a comprehensive range of tools available at our disposal to easily implement to suit various cases as required, and to ensure that each patient gets the lowest possible dose without impacting on image quality." //

St George Private Hospital, Australia

References

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3. *Wilson S, Prasan A, Virdi A, Lassere M, Ison G, Ramsay D, Weaver J. Effect on patient peak skin and total dose during coronary angiography. EuroIntervention, 17(3), e2520-e2526.*
4. *Sharon M. Wilson, Ananth M. Prasan, Amy Virdi, Marissa Lassere, Glenn Ison, David R. Ramsay, James C. Weaver. Real-time colour pictorial radiation monitoring during coronary angiography: effect on patient peak skin and total dose during coronary angiography. EuroIntervention, 12(8), e939-e947.*

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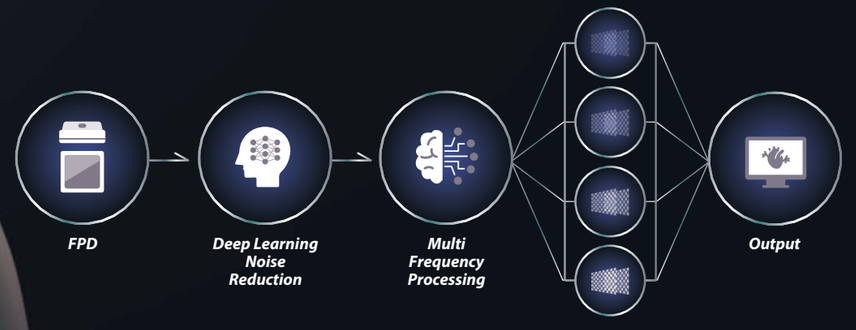
αEvolve Technology

See Clearer with αEvolve Imaging, in real-time

Clear fluoroscopic imaging enhances confidence and can help improve clinical outcomes, procedural efficiency and reduces the frequency of digital acquisition, leading to further dose reduction for patients and operators.
With Deep Learning* based noise reduction and multi-frequency processing αEvolve Imaging can deliver up to 2 times higher contrast-to-noise ratio compared to conventional image processing.



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

https://global.medical.canon/

Interventional Cardiology Solution Introduced Simultaneously in Opposite Parts of the World

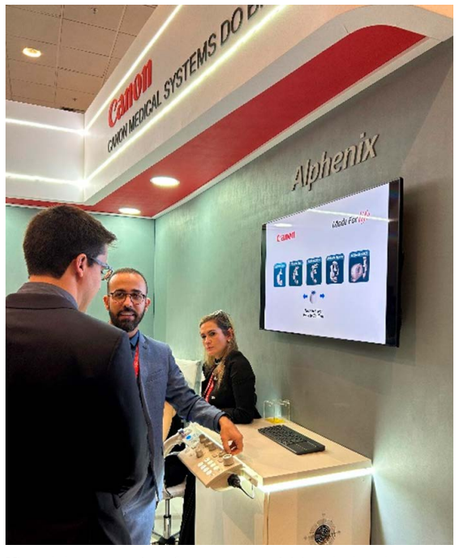
Alphenix / Evolve Edition is a new imaging solution from Canon Medical Systems for interventional cardiology suites. It utilizes real-time Deep Learning technology to help clinicians reduce the X-ray dose and contrast media usage while maintaining high image quality. Its technologies, which are packaged as αEvolve Technology, assist with daily interventional cardiology procedures, and elevate clinical confidence and procedural efficiency.

On August 4 to 6, in conjunction with the 31st Annual Meeting of the Japanese Association of Cardiovascular Intervention and Therapeutics (CVIT 2023) in Fukuoka, Japan, Canon conducted the release of the new X-ray angiography system.

Around the same time, Canon also actively conducted promotional activities in SOLACI (Sociedad Latino Americana de Cardiologia Intervencionista) for Alphenix / Evolve Edition in Brazil for customers in Central and South America.

SOLACI is the Latin American Society of Interventional Cardiology's largest cardiovascular medicine meeting in Central and South America. This meeting was held with the Brazilian Society of Hemodynamics and Interventional Cardiology (SBHCI), Brazil's largest cardiovascular medicine meeting, in Rio de Janeiro, Brazil, from August 2 to 4, 2023.

As part of the global launch events for Alphenix / Evolve Edition, Canon presented an exhibition booth at the conference and cohosted a lunch symposium to promote the system in Central and South America.



Virtual demonstrations for customers visiting the booth

Canon Medical Systems Brazil's Team pictured in front of the booth

Opening remarks by Dr. Ari Mandil (center), Chair of the event

The symposium was held on the first day of SOLACI and tackled the topic: "Elevate the Interventional Cardiology Procedure with Artificial Intelligence." The session explored the clinical benefits of Canon's first, real-time AI processing technology, as incorporated in Alphenix / Evolve Edition.

Dr. Ari Mandil of Hospital Felício Rocho (one of the "World's Best Hospitals" according to the Newsweek Magazine) Chaired the event. He is a leading figure in Brazil's Cardiovascular Society and was the President of SBHCI 2022. Dr. Mandil moderated the symposium to encourage lively discussions about the clinical values of Canon latest technologies.

Dr. Marco Wainstein

The first speaker was Dr. Marco Wainstein (Director of Cardiology at Hospital de Clinicas de Porto Alegre), and uses our systems in Brazil.
Dr. Wainstein delivered an educational lecture entitled: "The Importance of Advance Planning for Successful Transcatheter Aortic Valve Replacement (TAVR)." He discussed the importance of formulating preoperative and intraoperative plans for TAVR procedures following established guidelines.

The second speaker was Dr. Masahiko Asami (Chief of Cardiology at Mitsui Memorial Hospital, Japan). Dr. Asami, a user of Alphenix, presented a lecture entitled: "The Potential of Canon's AI Technologies in Complex Cases.", which nicely complemented the lecture delivered by Dr. Wainstein. Dr. Asami gave an outline of αEvolve Imaging. Utilizing Deep Learning technology in real-time provides cleaner and more defined images with less noise. Dr. Asami also described his high expectations for this technology.

Dr. Masahiko Asami

The third speaker was Dr. Sanjeeven Pasupati of Waikato Hospital, New Zealand, who is also a user of our systems. Dr. Pasupati delivered his lecture online. He discussed the clinical usefulness of the AI-based Dynamic Device Stabilizer (DDS), a function of Alphenix for improving the visualization of coronary artery stents. He also reported his initial clinical assessment of Echo Fusion technology based on its use in Structural Heart Disease patients. Echo Fusion is one of the αEvolve Technology, which automatically detects the echocardiography probe and fuses the fluoroscopic image without additional operator input.

Dr. Sanjeevan Pasupati

At this event, we invited international speakers to promote Alphenix / Evolve Edition and help transform the cardiovascular market in Central and South America. As a result, we could demonstrate the full potential of Canon latest technologies.
Canon will continue working as a true solutions provider in Cardiology in Central and South America. //

The State of the Art in Percutaneous Coronary Interventions with Alphenix

Dr. Kengo Tanabe is Director of Division of Cardiology Department at Mitsui Memorial Hospital in Tokyo, Japan. He specializes in diagnosing and treating coronary disease and aortic heart valve disease. The number of patients requiring coronary disease treatment continues to grow in his daily practice, as well as globally. Dr. Tanabe explains how Canon's Alphenix interventional X-ray system supports his daily complex coronary procedures.

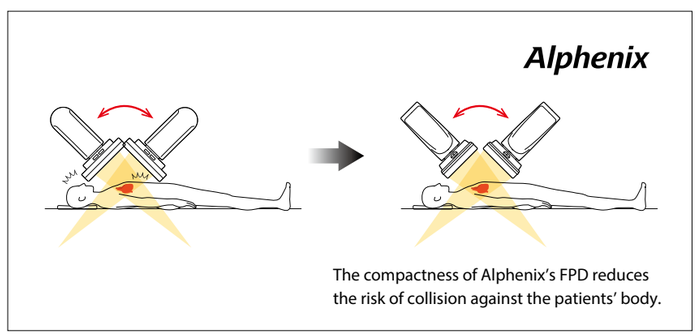
X-ray imaging plays a crucial role in the transcatheter treatment approach to coronary interventions, from pre-procedural evaluation through device size selection to treatment and follow-up.

A Partner in Image Guided Procedures

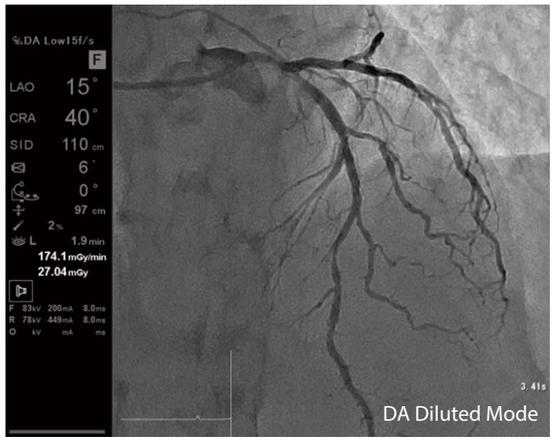
"The Angio system is an essential partner for the interventional cardiologist in delivering precision in complex coronary interventions regardless of patient size," Dr. Tanabe remarked. "Canon's Alphenix Angiography systems have been providing us exceptional imaging at low dose for years and years, so my team members really love it. It meets the interventionist's specific needs and preferences as well."

Mitsui Memorial Hospital has two cath labs running Alphenix. Cath lab 1 is mainly used for percutaneous coronary intervention (PCI) and electrophysiology (EP), and is equipped with an eight-inch flat panel detector. In cath lab 2, another Alphenix is mainly used for structural heart disease (SHD), endovascular and cerebrovascular interventions, which are performed using a 12-inch flat panel detector.

"The housing of Alphenix's X-ray detector is very compact, so it helps us avoid bumping the patient with the Flat Panel Detector (FPD) even when steep C-arm angulation is required to succeed in complex coronary procedures," he explained.



Compact X-ray Detector Dimensions



DA diluted mode image using three times diluted contrast medium

Powerful Imaging

Since the X-ray tube, X-ray detector, and imaging chain technology are quite advanced, the Alphenix system consistently provides outstanding image quality, allowing interventional cardiologists to concentrate on their procedures. The fluoroscopic images are sufficiently noise-reduced, sharp and defined as they manipulate PCI devices and confirm coronary artery blood flow, while minimizing dose to patients and medical staff.

"I love the image quality provided by Alphenix's DA diluted mode even while using really low contrast media volume. You're able to obtain better images of coronary artery anatomy and confirm blood flow in challenging situations when treating renal failure patients," said Dr. Tanabe.

"From my experience, you can definitely minimize contrast media volume. I often use contrast media that is three times diluted but could be diluted more," he added. "Alphenix's DA diluted mode enables us to perform safer and more effective patient treatment."

From a global perspective, shortages of contrast media over the past few years have affected many hospitals and patients. The shortage has impacted millions of examinations, some of which are essential or improve diagnostic accuracy.

"Although just using regular fluoroscopy to conduct complex PCI with implanting Ultrathin 60 μm drug-eluting strut like Orsiro stent (Manufactured by BIOTRONIK), the imaging of Alphenix is excellent. I don't even have to use DA/Cine for deploying ultrathin stents in order to evaluate properly through the image."

Dr. Kengo Tanabe, Interventional Cardiologist and Director of Division of Cardiology Department at Mitsui Memorial Hospital, Tokyo, Japan.

Coronary Stent Enhancing Features

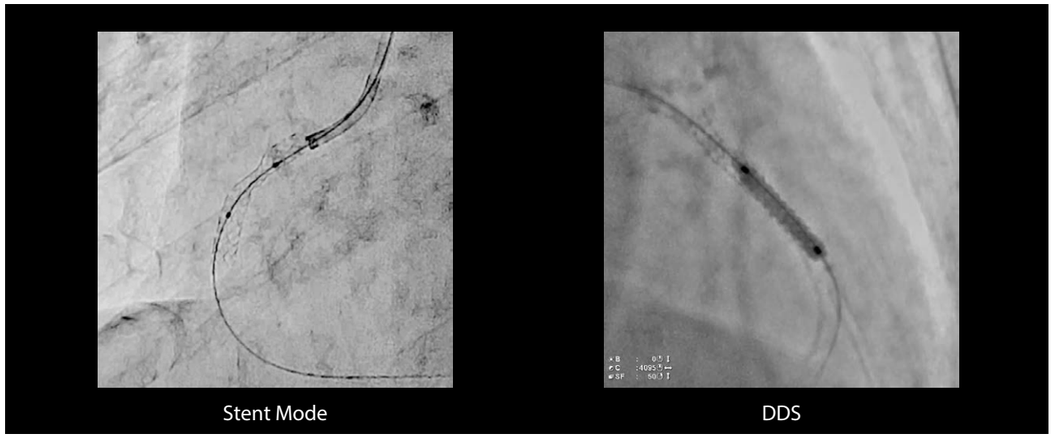
Dynamic Device Stabilizer (DDS)

This Deep Learning technology-based function provides stabilized stent-enhanced images even as the heart moves, allowing physicians to evaluate the degree of stent expansion more easily. The basic mechanism of DDS is to detect two balloon markers, fix the balloon markers on the screen and display stabilized stent-enhanced image in real time. This feature can be used in both regular fluoroscopy and Cine/DA.

Stent Mode

This mode doesn't require balloon marker detection but can enhance and display the coronary stent image in real time. It can be used for Cine/DA and also allows physicians to more easily evaluate the degree of stent expansion.

"When I decide IVUS/OCT is unnecessary, those two stent enhancing features are effective during the procedure because I can quickly confirm whether the stent has expanded enough or not," noted Dr. Tanabe. "Besides, DDS doesn't require Cine/DA, so it's an absolutely user friendly feature which doesn't disturb the physician's workflow and provides lower X-ray dose exposure to patients and medical staff."



Physicians can evaluate the stent position and how much the stent has expanded

Unique Workflow Opportunities

Alphenix integrates cardiac-optimized technologies with other modalities to help deliver the best possible outcomes for patients and medical staff. Features include tools to simplify procedure planning, technology to help users see and navigate with confidence, and better patient protection with a comprehensive suite of optimized technologies.

"The fusion of coronary CT image and angiographic image that Canon Medical provides could be a useful tool for training young physicians, Dr. Tanabe suggested. "If the image integration chain technology is upgraded, it could potentially help us plan procedures and deploy PCI devices more precisely."

Impact on Percutaneous Coronary Interventions

"PCI and CTO procedures are becoming more and more complex. Therefore, high image quality and intuitive operation are keys to handling more cases. The Alphenix series has been satisfying us for over a decade and I believe it will continuously become better and better," concluded Dr. Tanabe.

Interventional treatment is expected to become much less invasive in the near future, particularly through the use of AI technology. However, so far, AI has only been used for post processing of obtained images such as CT and MRI. With new advances in technology, the time has finally come to utilize AI for treatment in real time, enabling lower dose, less contrast media, and better device/vessel visibility. //

Biography

Dr. Kengo Tanabe

Dr. Kengo Tanabe, MD, PhD is Director of Division of Cardiology at Mitsui Memorial Hospital, Tokyo, Japan. He specializes in percutaneous coronary interventions (PCI). Dr. Tanabe has over 300 affiliated research publications regarding his specialty.

"PCI and CTO procedures are becoming more and more complex. Therefore, high image quality and intuitive operation are keys to handling more cases. The Alphenix series has been satisfying us for over a decade and I believe it will continuously become better and better."

Dr. Kengo Tanabe, Interventional Cardiologist and Director of Division of Cardiology Department at Mitsui Memorial Hospital, Tokyo, Japan.

French Expert Highlights the Benefits of Working with the Alphenix 4D CT

Canon Alphenix 4D CT system enables to ease patient flow and perform liver and prostate procedures with millimetric isometric precision, a leading French interventional radiologist told VISIONS.

The interventional radiology section at Nîmes University Hospital in southern France is a leading center for the treatment of osteoarticular and soft tissue diseases. 'Oncology represents about 70% of our activity,' said Prof. Julien Frandon, Head of the interventional department.

The hospital installed the Alphenix 4D CT in November 2020 to anticipate to the growing need for hybrid procedures requiring a CT guided intervention combined with fluoroscopy imaging with a C-arm, for more precision and better visualization when injecting i.e embolic material and devices.

'We really needed an all-inclusive room,' said Prof. Frandon, who was 'seduced' by the equipment's 'all in one' aspect, and, in particular, the possibility to perform image fusion.

We really liked the instant fusion possibility of vascular CT data during fluorosocopy,' he said.

Alphenix 4D CT

'We started performing prostate embolizations, our field of expertise, which was sub-optimal in the past due to the limitations of our conventional cone beam CT'.

With the Alphenix 4D CT, the team now works with 'millimetric isometric precision' in three planes. 'We can do perfusion thanks to the wide area detector of the CT scanner, which allows us to cover 16cm in a single rotation.'

Biography
Prof. Julien Frandon, an interventional radiologist, has been the head of the functional unit in the interventional section at Nîmes University Hospital, France, since November 2015.

Benefits of Working with a Multimodal Guidance System with a Wide Area CT Detector

The Alphenix 4D CT has tremendously improved the patient flow at the hospital, Prof. Frandon explained. 'For each patient, we used to ask ourselves: Do I need CT, X-ray or Ultrasound imaging for this procedure? Now, thanks to our multimodality interventional room, we no longer have to ask ourselves this question.'

The system enables to do virtually any type of intervention, he added. 'We can manage our patients under CT and/or angio guidance, which is perfect. We no longer have to reschedule patients and face programming difficulties on the other radiology examination rooms. For all the complicated procedures where I'm not sure which imaging technique to use, I use the Alphenix 4D CT room.'

The team can also combine multiple imaging modalities, a possibility that is particularly relevant when carrying out liver and prostate procedures.

'For example, when we do an arterial approach, we inject a contrast media agent directly into the superior mesenteric artery, and its venous return allows us to have a pure portal hepatic enhancement, which is called Porto-CT. This allows us to clear everything that is not hepatic parenchyma, and therefore to see even metastases that are not visible with classical contrast injections,' he said.

> *"The Alphenix 4D CT has tremendously improved the patient flow at the hospital."*
>
> *Prof. Julien Frandon, Nîmes University Hospital, France*

Canon Alphenix 4D CT system at Nîmes University Hospital in France.

The system features the Aquilion ONE wide area detector CT scanner, which was a decisive factor for his team, Frandon explained. 'We wanted to perform liver interventions. The benefit is that, with the acquisition of 16 cm per rotation, the liver is directly visible after a single rotation, without having to make a helical CT acquisition. You have instantaneous volume acquisitions,' he said.

This 'One shot volume scan' can be repeated over time with an exceptional temporal resolution, enabling to obtain perfusion maps, which are also useful for prostate imaging. 'This allows us to have both perfusion imaging and 3D mapping of the vessels because, in a 16 cm volume acquisition, we can visualize both the prostate and the prostatic arteries that arise from the hypogastric artery,' he said.

Innovative Features

Canon SURESubtraction application, an acquisition mode similar to a DSA sequence in angiography, brings significant advantages in daily routine, according to Prof. Frandon.

'First, we make a mask acquisition with a very low dose, then an arterial acquisition that allows us to obtain a perfect vascular and bone CT subtraction volume automatically.'

This ability is particularly beneficial in the prostate, where traditional segmentation can be very time consuming. 'It used to take us a lot of time, because some vessels near the sacrum were deleted on the consoles and we had to perform manual segmentation,' he said.

'Today, we use SURESubtraction all the time, and also in the liver. For example, we can now see if there's new contrast enhancement of a previously treated nodule or if it's Lipiodol from an old procedure.

'The Auto-registration module was recently installed, allowing for automatic fusion of CT volumes with fluoroscopy without the need to perform frontal and lateral fluoroscopy to align the CT volume with the actual fluoroscopy image. 'It works very well and it's allowed us to optimize our workflow,' he said.

The newly designed hybrid CT touch-panel interface for CT guided interventions that enables one-handed operation was recently installed, at the team's request.

'We're really satisfied with this upgrade. Canon designed the Hybrid Touch Panel so that a single operator could perform most tasks at the bedside and fewer interactions are required from the radiographers. These are real advantages for workflow during our interventions and the optimization of our staff management.' The Alphenix 4D CT is also equipped with Advanced intelligent Clear-IQ Engine (AiCE), a CT reconstruction algorithm based on artificial intelligence that enables to further reduce radiation dose.

'When we do interventional procedures, we can accept a noisy image because the goal is simply to be able to guide ourselves, even at low dose,' Prof. Frandon said. 'Nevertheless, some operators asked for an increase in dose in order to reduce the noise. We no longer have this problem with AiCE. The image noise is removed while the texture is maintained and without distortion, allowing us to work in Ultra Low Dose.'

Patients, too, are very happy with the Alphenix 4D CT. 'They know that the procedure will be much more precise. The fact that we have the multimodality interventional system with the wide-area CT scanner is clearly a benefit,' he concluded. //

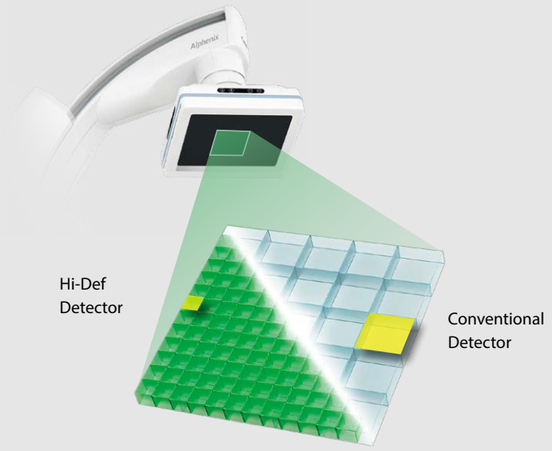
Revolutionizing Patient Care in Oceania – A New Era with Canon Angio-CT and High-Definition Imaging

On Monday, 26 June, Canon Medical supported the launch of the new Canon Alphenix 4D CT (Angio-CT) at a tertiary hospital in central Sydney, Australia. This groundbreaking promises to redefine patient outcomes and revolutionize treatment across interventional radiology, interventional oncology and trauma.

The launch event showcased the efficient workflow, superb mechanical design, and unrivaled patient access of the system and its clinical benefits. The tertiary hospital in central Sydney is the first Australian site to install this state-of-the-art system. They will benefit from the combination of the Alphenix Sky + with High-Definition flat panel detector and the Aquilion ONE / GENESIS Edition CT scanner, the first of its kind in the Southern Hemisphere, and the first in the Asia Pacific region outside of Japan.

See more, Do more with Hi-Def (High-Definition)

Canon's Hi-Def detector allows effortless zoom down to 1.5 inches (4 cm) with double the spatial resolution. The detectors small field and fine, 76 micron pixels help clinicians to visualize fine details, anatomical structures and deploy devices with accuracy and confidence.



The launch event was attended by a range of interventional radiology luminaries from the wider ANZ region, as well as key hospital staff including representatives from management, trauma and interventional radiology. Canon Medical staff including Mr. Izumi Watanabe, General Manager of the International Sales Division at Canon Medical Systems and Canon Medical Systems ANZ Managing Director Ms. Monica King, were also pleased to attend and to celebrate this important milestone installation.

After the presentations, the attendees had the opportunity to see this cutting-edge technology for themselves, with the formal opening and a tour of the new facilities. Attendees were provided with a demonstration of the key Canon Medical innovations and the speed and ease of transitioning between modalities. Comments of "look at how quickly the system moves," "amazing working system," and "I'm blown away by the room and the capability" were heard.

Mr. Izumi Watanabe, General Manager of the International Sales Division, Canon Medical Systems

Interventional Radiology Society of Australasia (IRSA)

Following the Alphenix 4D CT launch, Canon Medical supported the Interventional Radiology Society of Australasia (IRSA) conference.

The most important interventional radiology conference in ANZ, the IRSA conference attracts attendees from APEC nations, the United States, and Europe. The primary focus for the congress is to improve the quality and range of procedures in interventional radiology and promote recognition and further development of the specialty. This year the conference focused on innovative new technology, including the values of Alphenix 4D CT, interventional oncology and women in interventional radiology.

Prof. Tay Kiang Hiong (Singapore General Hospital) hosted a workshop titled "4D-CT: Revolutionizing Interventional Radiology", where he shared his experience of how the Canon Alphenix 4D CT improves the efficiency of procedures and how unique innovations like Dynamic Volume CT can increase clinical confidence by allowing clinicians to assess perfusion during procedures.

"As a sponsor of the IRSA conference, we recognise the significance of this event in driving transformative change in the field of interventional radiology (IR). The IRSA conference serves as a unique platform for IR professionals and industry leaders to converge. The advancements, education, and collaboration on display at this year's event will help drive the use of groundbreaking techniques and technologies and Alphenix 4D CT can play an important role in this. We are proud to be a part of this event that strives to make a lasting impact on the health and well-being of patients, and the standing and importance of interventional radiology"- Mr. Ricky Davidson, Canon Medical Systems ANZ VL BU Manager. //

Prof. Tay Kiang Hiong (Singapore General Hospital, third from right) hosted a workshop titled "4D-CT: Revolutionizing Interventional Radiology" at the IRSA conference

The Alphenix / Evolve Edition – Setting New Standards in Interventional Cardiology

Canon new Alphenix / Evolve Edition Angiography system, which was introduced in August 2023, has opened new windows of opportunity for interventional cardiologists. Unique Deep Learning technology with real-time application enables users of the Alphenix / Evolve Edition to enhance imaging and reduce the time and radiation dose required for routine and complex interventional cardiology procedures, such as Percutaneous Coronary Intervention (PCI) and Structural Heart Disease (SHD) treatments. The results are increased success in these intricate procedures and improved safety for clinicians and patients.

Imaging plays a crucial role in PCI and SHD interventions, from preprocedural evaluation and device size selection to treatment and follow-up. With the number of patients requiring these interventions growing rapidly on a global level, Canon Alphenix / Evolve Edition Angiography System supports these complex procedures and enables clinicians to advance further with them than ever before.

"Interventional cardiology departments are faced with growing clinical demands, financial pressures, and the need for improved efficiency, as the number and complexity of cases increase," remarked Kunitoshi Matsumoto, Global General Manager of Canon Vascular Systems Division. "To meet these challenges, Canon has introduced the Alphenix / Evolve Edition."

Technology that Supports Progress

The new Angiography system features Canon most advanced Deep Learning technology, - αEvolve Imaging – which includes a whole new suite of AI-technologies developed to provide instantaneous, real-time assistance for key diagnostic and therapeutic decisions without interrupting workflow. αEvolve Imaging utilizes Deep Learning based noise reduction and multi-frequency processing to provide cleaner, sharper, more defined images. Its complex algorithm enables outstandingly clear fluoroscopic imaging, which can deliver up to two times higher contrast-to-noise ratio compared to conventional image processing.

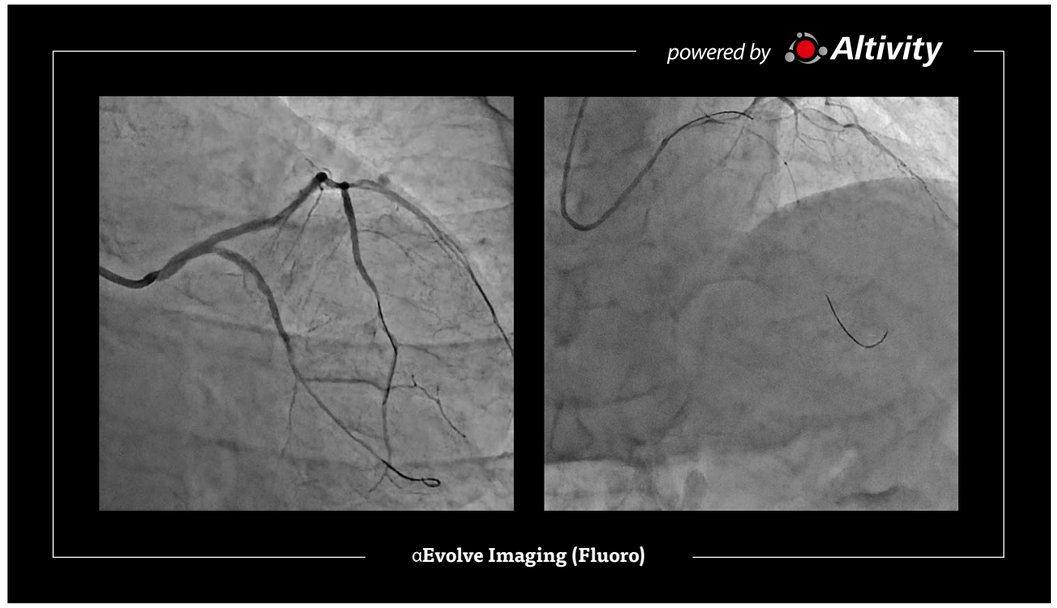
αEvolve Imaging has been developed by Canon and tested in several leading centers of healthcare expertise, including Kumamoto University Hospital (Japan).

"We have rigorously tested our new AI technologies in both development and clinical phases and are extremely confident that they will have a big impact on clinical success in interventional cardiology," said Kunitoshi Matsumoto.

Altivity

Canon Medical's Altivity

Introducing Altivity, our bold new approach to AI innovation that uses smart technologies to make a whole new level of quality, insight and value across the entire care pathway possible. Designed specially to address the growing complexities of interventional cardiology we developed αEvolve Technology, powered by Altivity. Leveraging Artificial Intelligence, αEvolve Technology provides innovative solutions to support high quality, safe and efficient diagnosis and treatment while improving the experience for patients and healthcare workers.



“By deploying AI expertise to the field of interventional cardiology, we have full confidence that this will offer impactful tools to physicians and, most importantly, enhance patient care.”

Erwan Ladsous, European Director Interventional X-ray, Canon Medical Systems Europe.

“The initial experiences of those involved in the clinical evaluation of αEvolve Imaging on the Alphenix / Evolve Edition was recently introduced at EuroPCR 2023 [1] in Paris with very positive results.”

Better image quality with minimal dose is particularly valuable in intricate interventional cardiology procedures, such as those required during PCI for maneuvering devices and confirmation of coronary blood circulation. It is also to obtain a deeper or improved perception of structure or anatomy, and gain better image comprehension in challenging situations, such as where steep angulation is required, as well as examinations for obese patients.

With basic image quality drastically improved, the use of contrast media and X-ray dose can be minimized. As an example, Kumamoto University Hospital in Japan succeeded in reducing X-ray dose by up to 30% compared to the normal system settings with use of αEvolve Imaging.

Building on Existing Strengths

The Alphenix / Evolve Edition leverages the strengths of existing Alphenix technologies, such as the ergonomics of the C-arm with a range of C-arm positions that provide coverage from head-to-toe and fingertip-to-fingertip. It can be moved to pretty much anywhere required without having to move the catheter table. The system’s 12 × 12 inch Flat Panel Detector (FPD) technology also supports complete procedural flexibility.

And the integrated cardiac-optimized technologies help deliver the best possible outcomes to patients. These include tools to simplify procedure planning, technology to help users see and navigate in confidence, and better protect patient and clinical staff with a comprehensive suite of dose optimization technologies, such as the Dose Tracking System (DTS) that provides real-time information on radiation dose.

Advanced Tools for Specific Procedures

In addition, the Alphenix / Evolve Edition features a number of new AI-based tools that offer a new level of support for complex interventional cardiology procedures.

The Dynamic Device Stabilizer (DDS) utilizes Deep Learning technology to automatically detect balloon markers in real-time, magnifying and stabilizing the image on a separate screen to assist visualization and assessment during complex PCI.

Echo Fusion supports better visibility for SHD procedures such as Left Atrial Appendage Closure (LAAC), by tapping into Deep Learning intelligence to automatically identify the echocardiography probe and efficiently fuse the fluoroscopic and echo image without additional operator input.

“We are very proud to bring these meaningful innovations to the market,” said Erwan Ladsous, Canon Medical’s European Director Interventional X-ray. “By deploying Canon Medical’s AI expertise to the field of interventional cardiology, we have full confidence that this will offer impactful tools to physicians and, most importantly, enhance patient care.” //

“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.”

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

References

1 ***Scan the code or click HERE to view Canon Medical sponsored Symposium at the EuroPCR 2023 congress in Paris***

This article is a reprint from the international VISIONS magazine #41, published by Canon Medical Systems Europe B.V.

Canon
CANON MEDICAL

aEvolve Technology

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 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.

https://global.medical.canon/

Revolutionizing Angiography in India: Apollo Hospitals Group Collaborates with Canon to Introduce the First Alphenix System

In 2022, the first Alphenix in India was installed at Apollo Hospitals Navi Mumbai, a leading institution of the Apollo Hospitals network in India.

Prior to this significant installation in the country, Canon Medical Systems had arranged a workshop that facilitated interaction between Alphenix users and Dr. Prathap C Reddy, the founder and the chairman of the pioneering Apollo Hospitals Group.

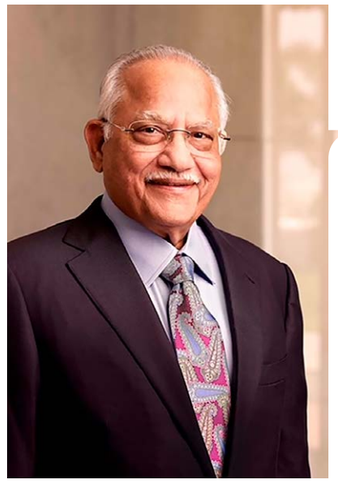
Visions Special conducted an interview with Dr. Reddy on Alphenix and prevailing situations related to cardiovascular diseases in India.

Apollo Hospitals Group: Pioneering Excellence in Healthcare

Four decades ago, in 1983, Apollo Hospitals revolutionized healthcare when Dr. Prathap Reddy opened the first corporate hospital in Chennai. At present, Apollo Hospitals is the world's largest integrated healthcare organization with over 10,000 beds across 71 hospitals, nearly 6000 pharmacies and over 200 clinics and diagnostic centres as well as 150 telemedicine centres. It is one of the world's leading cardiac centres having performed over 3,00,000 angioplasties and 2,00,000 surgeries. Apollo Hospitals has continuously invested in research to usher in cutting-edge technologies, equipment and treatment protocols to ensure patients have access to the global best in medical care. The Apollo family of over 100,000 members are dedicated to keep raising the bar in clinical excellence and delivering best in class care.

"Our mission is to bring healthcare of International standards within the reach of every individual. We are committed to the achievement and maintenance of excellence in education, research and healthcare for the benefit of humanity."

Dr. Prathap C Reddy, Founder and Chairman, Apollo Hospital Group, India



"Canon's ground-breaking dose management technology is immensely encouraging and it presents promising opportunities for future partnerships with Canon Medical. Together, we stand on the brink of transformative advancements in healthcare."

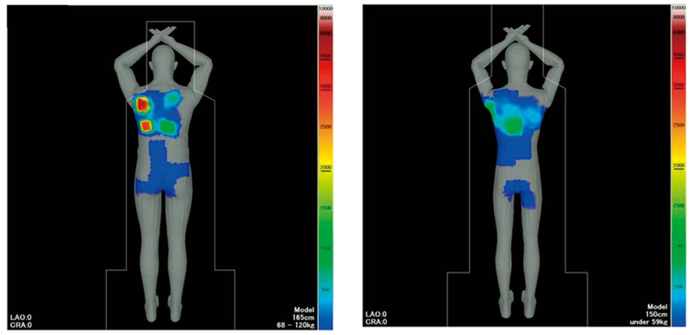
Dr. Prathap C Reddy, Founder and Chairman, Apollo Hospital Group, India

Alphenix at Apollo Group Hospitals

"At Apollo, we have integrated cutting-edge radiation technology from Canon and implement unique dose reduction technologies, including the Dose Tracking System (DTS) and Spot Fluoroscopy. "remarked Dr. Reddy.

DTS is Canon's unique dose management solution, which displays the dose distribution on a human model in real-time during procedures. This helps the operator to monitor exposure levels and make necessary dose adjustments.

"I find myself genuinely drawn to Canon's pioneering dose management technology and the exciting potential for future collaborations with Canon Medical's distinguished KOL, Dr. Kinzo Ueda," added Dr. Reddy. "Together, we stand on the brink of transformative advancements in healthcare."



without DTS **with DTS**

Providing International Standards of Healthcare

Dr. Reddy added, "In 2019, Canon Medical organized a workshop for us. It was during this event that Dr. Kinzo Ueda from the Cardiovascular Intervention Centre at Takase Clinic in Japan visited us, and we engaged in extensive discussions. He also

Alphenix at Apollo Navi Mumbai Hospital

visited a Cath lab at one of our group hospitals for a live demonstration. Following this, Dr. Ueda delivered an excellent presentation on the topic '*Retrograde Approach – Reverse CART and Variations.*' This gathering offered an exceptional opportunity to meet Dr. Ueda and his team, who shared valuable insights from their successful CTO-PCI procedures in Japan and around the world. I firmly believe that such events enhance medical knowledge and make a significant contribution to improving patient care."

It was during this event that Dr. Reddy highlighted Apollo Hospitals' outstanding achievements in cardiac sciences and elaborated on how India is facing an escalating threat from the growing prevalence of non-communicable diseases (NCDs), particularly heart diseases. Dr. Reddy emphasized that ischemic heart disease and stroke are the leading contributors to India's total mortality and premature deaths and underscored that NCDs pose a serious threat not only to human health but also to development and economic growth.

NCDs now account for nearly 70 percent of all fatalities, making them the primary cause of global mortality in the present day. It is deeply concerning that an increasing number of individuals succumbing to chronic non-communicable diseases are in the prime of their productive years.

Over the next decade, NCDs are projected to incur a cost exceeding $30 trillion, representing 48 percent of global GDP. This economic burden risks pushing millions of people into emotional and financial devastation, as many are primary breadwinners for their families. Furthermore, in a youthful nation like India, the country stands to lose potential nation builders before they can fully realize their potential.

During the discussion, Dr. Reddy emphasized how advancements in medical science and technologies enabling early and improved diagnosis, management, and treatment of cardiac diseases have brought about significant improvements. These advancements have enhanced surgical outcomes, post-treatment care, reduced hospital stays, and significantly improved the overall quality of life for patients. It is hence essential for our clinicians to stay at the forefront of these evolving technologies, practices, and procedures.

"The meeting with Dr. Ueda reinforced the importance of pursuing excellence and aligns with Apollo Hospitals' mission to provide international standard healthcare to all."

"The incorporation of Alphenix into our medical practices at Apollo Hospitals Navi Mumbai since 2022 has garnered highly satisfactory feedback, reaffirming our unwavering commitment to state-of-the-art healthcare solutions."

Apollo Hospitals Navi Mumbai

"The incorporation of Alphenix into our medical practices at Apollo Hospitals Navi Mumbai since 2022 has garnered highly satisfactory feedback, reaffirming our unwavering commitment to state-of-the-art healthcare solutions," concluded Dr. Reddy. "Together, we strive for excellence in healthcare, driven by empathy, collaboration, and a shared commitment to improving the lives of patients worldwide."//

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