

VISIONS

SPECIAL

MAGAZINE FOR HEALTH PROFESSIONALS

Global Edition // Interventional X-Ray // No 10 // November 2025

10th

Interventional X-ray

Redefining the
Angio Suite for
Interventional
Radiology

6 // INTERVENTIONAL RADIOLOGY

A Vision of the Future
of Interventional
Cardiology: EuroPCR
2025 Congress Report

28 // CARDIOLOGY

Progress in Stroke
Treatment with
State-of-the-Art
Magnification
Technology

40 // NEUROLOGY

Canon



// EDITORIAL

Dear Readers,

I would like to express my sincere appreciation to all medical professionals for everything they do for patients and for their immense efforts under daily pressure and in complex clinical conditions. I would also like to thank all of our colleagues worldwide who support these medical professionals.

We are proud to report that this is the 10th edition of our VISIONS Special on Interventional X-ray, featuring the voices of users of our angiography systems from around the globe. Since the first issue of the VISIONS Special magazine, we have been sharing experiences with our angiography systems demonstrating an expanding range and developing technology.

At Canon Medical, we aim to match your commitment through our continuous mission to deliver the best possible medical imaging and treatment solutions. Just as you are dedicated to serving patients, we are dedicated to helping you succeed.

In this edition, global users discuss their experiences with our innovative technologies and functions on our angiography system, Alphenix, and also describe how they use their systems in real-world clinical situations.

This year, we have proudly introduced a new Angio-CT platform, Alphenix 4D CT with Aquilion ONE / INSIGHT Edition; bringing a new level of cutting-edge technology to the interventional radiology suite that has never been seen before. In addition, the Alphenix / Evolve Edition, our dedicated system for interventional cardiology, has been supporting cardiologists with many advanced features based on our state-of-the-art AI technologies that improve clinical workflow and minimize strain on both patients and healthcare professionals. In this edition we are delighted to deliver the latest insights on these new systems and technologies and to demonstrate how we are committed to bringing advances to medical imaging in the interventional field.

I hope you enjoy reading this edition of VISIONS Special.

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

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

// CONTENTS

14

Why Sapporo Heart Center, One of the Leading PCI Centers in Japan, Chose Alphenix
CARDIOLOGY



20

Precision in Every Pulse: Aster's Cath Lab Elevates Care with Canon's Alphenix Biplane
NEUROLOGY



03 Editorial

06 Redefining the Angio Suite for Interventional Radiology
INTERVENTIONAL RADIOLOGY

14 Why Sapporo Heart Center, One of the Leading PCI Centers in Japan, Chose Alphenix
CARDIOLOGY

20 Precision in Every Pulse: Aster's Cath Lab Elevates Care with Canon's Alphenix Biplane
NEUROLOGY

28 A Vision of the Future of Interventional Cardiology: EuroPCR 2025 Congress Report
CARDIOLOGY

33 The Alphenix Sky - Zooming in on Genicular Artery Embolization
INTERVENTIONAL RADIOLOGY

33

The Alphenix Sky - Zooming in on Genicular Artery Embolization
INTERVENTIONAL RADIOLOGY



59

Enhancing Workflow and Integration with QMAPP
CARDIOLOGY



40

Progress in Stroke Treatment with State-of-the-Art Magnification Technology
NEUROLOGY



42

Beyond the equipment: Reimagining the possibilities of an Angio Suite
INTERVENTIONAL RADIOLOGY



36 At the Heart of Patient Care: Consolidating Cardiology Services in India
CARDIOLOGY

40 Progress in Stroke Treatment with State-of-the-Art Magnification Technology
NEUROLOGY

42 Beyond the equipment: Reimagining the possibilities of an Angio Suite
INTERVENTIONAL RADIOLOGY

50 Alphenix / Evolve Edition Angio Suite Achieves Lowest Doses to Enable Complex, Lengthy CTO-PCI
CARDIOLOGY

53 Interventional Neuroradiology: Training and Technology That Tackles the Rise in Stroke in Türkiye
NEUROLOGY

59 Enhancing Workflow and Integration with QMAPP
CARDIOLOGY

62 A First for Scotland at Forth Valley Hospital
INTERVENTIONAL RADIOLOGY

Redefining the Angio Suite for Interventional Radiology

Canon introduced its next-generation Angio-CT - The Alphenix 4D CT integrated with the Aquilion ONE / INSIGHT Edition - at CIRSE 2025, the annual congress of the Cardiovascular and Interventional Radiological Society of Europe, which was held in Barcelona between September 13 and 17, 2025.

The new advanced solution redefines the angio suite by combining state-of-the-art angiography with cutting-edge CT technology, delivering unparalleled imaging precision and workflow efficiency.

A plethora of new features

Hardware enhancements that can be found in the new system include an 80 cm flared bore, gantry lighting, and tilting for improved access during complex procedures. The 16 cm wide-area detector enables full-organ coverage in a single rotation, while volume CT-fluoroscopy provides real-time guidance for challenging interventions. Clinicians can now perform full-organ perfusion studies and immediate post-treatment evaluations - all within the angio suite.



Also featuring an expanded range of software solutions powered by Altivity AI technologies, the system incorporates AiCE (Advanced intelligent Clear-IQ Engine) and PIQE (Precise IQ Engine) for super resolution (1024 matrix) and low-noise imaging, along with deep-learning spectral CT capabilities. The redesigned INSTINX* interface simplifies complex workflows through automated scan planning, intuitive layouts, and low-dose 3D landmark scans.

* Please refer to page 12 for more information about INSTINX.



* Adaptive Iterative Dose Reduction

“With the Alphenix 4D CT and Aquilion ONE / INSIGHT Edition, we are setting a new standard for interventional imaging,” said Erwan Ladsous, European Director Interventional X-ray at Canon. “This innovation reflects our commitment to empowering clinicians with tools that enhance precision, safety, and patient outcomes.”

Welcomed with enthusiasm

Recognized as one of the most influential events in interventional radiology, CIRSE 2025 brought together thousands of specialists from around the world to explore the future of minimally invasive therapies. Canon's new Angio-CT system

was welcomed at the event, being showcased at Canon's booth and supported by a European-wide press release of the launch of Alphenix 4D CT with Aquilion ONE / INSIGHT Edition: On September 14, initial experiences with Canon's Alphenix 4D CT integrated with the Aquilion ONE / INSIGHT Edition, as

Scan the code or click [HERE](#) to read the full press release



well as further benefits of the Alphenix 4D CT were discussed by two European IR experts in a satellite seminar, moderated by Prof. Afshin Gangi, Chairman of the Radiology and Nuclear Medicine Department at the University Hospital of Strasbourg in France.

The St. Eloi University Hospital in Montpellier, France, was one of the very first to explore the potential of Canon's next generation Angio-CT platform - The Alphenix 4D CT integrated with the Aquilion ONE / INSIGHT Edition. The hospital, which has a long-standing collaboration with Canon, evaluated in the system in the summer. At the CIRSE seminar, Prof. Boris Guiu, Head and Chairman of the



Prof. Afshin Gangi

4DCT | 2025 August 4th... first patient



Department of Diagnostic and Interventional Radiology at the same hospital, outlined the impact the new system has already made in daily clinical practice in a presentation entitled: “Introducing a New Alphenix 4D CT Platform: From Installation to Intervention.”

Intricate installation

Aiming to achieve the IR ideal in patient care of ‘treat-plan-and-verify’ in a single room, the installation of the new system was carefully planned to create a full, multimodal IR suite with integrated Angio-CT and ultrasound in the same space that measured less than 50 m². It was a challenging task due to having to place the system within a functioning Operating Room (OR). It required a great deal of skilled teamwork.



Prof. Boris Guiu



The first global installation of the Alphenix 4D CT which combines the Alphenix Sky + C-arm with the Aquilion ONE / INSIGHT Edition CT scanner

“This was a truly massive work completed by Canon’s teams and carried out over a three-month period,” remarked Prof. Guiu.

“Everything was simulated in advance. Not only the parking positions, but also the full range of movements: of the table, of the CT, and of the C-arm, as well as considering the ceiling mounted equipment, such as the large display or protective shields,” he continued. “The ground rails, for the CT- gantry had to be built with extreme accuracy, because the system must know at any given time, the exact relative position of the CT, the C-arm, and the table, to enable seamless image core registration across modalities.”

“We also modelled the workflow of the medical staff, including radiographers and anesthesiologists,” he added.

“You can see how difficult it is to install such a system in a working OR - which in this case was carrying out liver transplantation next door - without interrupting surgery,” said Prof. Guiu. “And, as you can see on this video, heavy access was done through the OR façade to keep activity running during this work.”

Accommodating a true one-room IR

The result is a full, multimodal room that integrates Angio-CT and ultrasound in the same IR suite. Canon’s new Alphenix 4D CT solution combines the new Alphenix Sky + C-arm with High-Definition flat panel detector with the Aquilion ONE / INSIGHT Edition CT scanner, bringing together 16cm coverage, 0.24 second rotation and integrated deep learning reconstruction - all from within an 80cm bore.

“The evolution from the previous platform was really immediate to capture. It is very fast and seamless, and the workflow clearly improved from the very beginning.”

Prof. Boris Guiu,
Head and Chairman of the Department of Diagnostic and Interventional Radiology, St. Eloi University Hospital, Montpellier, France

“It is precisely this combination that makes one true IR room possible,” said Prof. Guiu. “We started using the system with the first patient only one month ago, but the evolution from the previous platform was really immediate to capture. It is very fast and seamless, and the workflow clearly improved from the very beginning.”

Despite not having the system for very long, Prof. Guiu outlined in the seminar how impressed he was with the new features, including INSTINX, which is now available with the Alphenix 4D CT for the first time, PIQE – Canon’s Precise IQ Engine which delivers super resolution, sharper images, less noise and no additional dose, dose reduction tools, and improvements such as super-fast transition between modalities. He was also able to share a number of interesting cases to illustrate various benefits.

Combining the best of CT and angio today

Prof. Guiu believes that the new system combines the best of CT and angio today.

Pediatric IR

University Children’s Hospital Zurich, Switzerland, is the largest pediatric and pediatric surgery center in Switzerland and one of the leading children’s hospitals in the world. Dr. Ralph Gnannt, Interventional Radiology Consultant and Pediatric Interventional Radiologist at the same hospital, also gave a presentation at the CIRSE 2025 seminar entitled: “Broadening the Scope - Alphenix 4D CT in Pediatrics”. The presentation illustrated how advanced technology in Canon’s Alphenix 4D CT can meet the diverse needs of pediatric IR.

“Everything has now become easier, faster, and more user-friendly. We can achieve outstanding image quality at low dose, every day.”

Prof. Boris Guiu,
Head and Chairman of the Department of Diagnostic and Interventional Radiology, St. Eloi University Hospital, Montpellier, France

Angio-CT | CONCLUSION

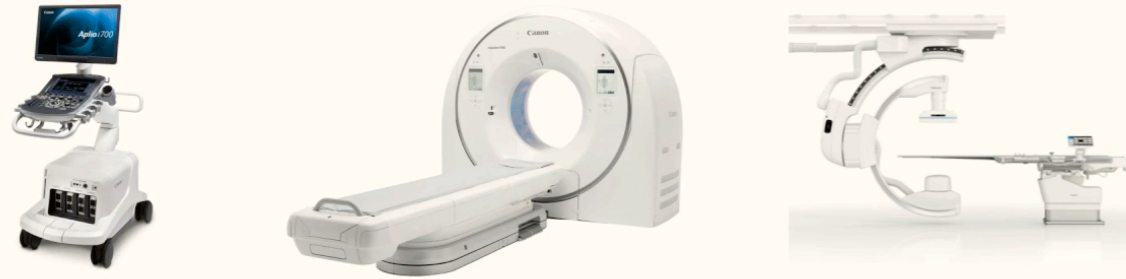
- **New ALPHENIX 4DCT platform**
 - Integrates the best of CT and Angio.
 - Everything is easier, faster and more user-friendly
- **Outstanding image quality at low dose**
- **16cm coverage is a must!**
- **3D guidance/control for every procedure, everyday!**
- **4D acquisitions have now entered routine practice**
- **Now 4DCT truly earns its name!**

medinbox
b-guiu@chu-montpellier.fr
UNIVERSITY HOSPITAL OF MONTPELLIER

What is (Pediatric) Interventional Radiology?

What is a 4D CT?

- Dynamic CT imaging inside an IR suite (Fluoroscopy and Ultrasound)
- CT analysis and therapeutic Fluoroscopy/Angiography in one session
- Fast switching between modalities



Brand new horizons

The hospital has been totally renewed to create a whole new facility that opened its doors to patients in November 2024. A fully-equipped, state-of-the-art pediatric IR room (47m²) forms an integral part of the new children's hospital. Canon became involved in the design process to equip the new IR room, which highlighted some of the specific requirements of the specialty.

The old hospital had a small fluoroscopy room, which was not designed for interventions. A CT system was situated across the aisle from this room, but it was sometimes not possible for the IR team to transfer the patient there. It was important to create more space in the new room for anesthesia equipment.

"The Alphenix 4D CT brings one-stop medicine, reduced

time-to-start treatment, and the ability to implement one-room workflows in pediatric IR," said Dr. Gnannt. "In addition, it is easy to train people despite the complexity of the system. With it, we can increase patient safety, and maybe it helps to really make what we actually do more transparent for the hospital."

"The oncology department have the impression that because of this new room, they can start treatment earlier. There are fewer intrahospital transfers, and we can actually implement one-room workflows, which is very important for the technicians and the nurses who work in this room," he continued.

"Once you have the system, you can't 'go back'," he added. "You build a team around this machine, and the nurses, the technicians also don't want to go back to working without it."

"The Alphenix 4D CT brings one-stop medicine, reduced time-to-start treatment, and the ability to implement one-room workflows in pediatric IR."

Dr. Ralph Gnannt,
Interventional Radiology Consultant and Pediatric Interventional Radiologist,
University Children's Hospital Zurich, Switzerland



Conclusion – 4D CT in Peds IR

- One Stop Medicine – reduce time to start treatment
- One-room workflows, easier to train people despite the complexity of the machine
- Raises patient safety
- More transparent, what we do

Pioneering Progress

CIRSE 2025 marked the 40th anniversary of the Cardiovascular and Interventional Radiological Society of Europe (CIRSE). With the event themed 'Pioneering Progress', Canon aimed to showcase how it can contribute to advancing the work of interventional radiologists through

innovative technology in medical imaging. The reception of industry specialists to the Angio-CT - The Alphenix 4D CT integrated with the Aquilion ONE / INSIGHT Edition reflected how this key technology is pioneering progress in interventional radiology. //



One Room. Endless Possibilities.

Canon's new Angio-CT solution includes in a single room:

- An Alphenix Sky + (high-precision angiography).
- An Aquilion ONE / INSIGHT Edition scanner (ultra-fast volumetric imaging).

This setup enables optimized patient care, with fewer transfers, enhanced precision, and significant dose reductions for both patients and medical teams.

Scan the code or click [HERE](#) for more information



Key features include:

PIQE

Precise IQ Engine (PIQE) is a Super-Resolution Deep Learning Reconstruction (SR-DLR) algorithm, originally developed by Canon for use in cardio radiology. It delivers extraordinarily sharp images with significantly reduced noise and dose. Combined with the Aquilion ONE single-rotation coverage, it offers specialists an entirely new level of clarity and diagnostic confidence on small vessels and fine structures.

Scan the code or click [HERE](#) for more information



Dose reduction technologies for Aquilion ONE / INSIGHT Edition

Canon's ground-breaking, ultra-low-dose helical scan performed using its SilverBeam filter enables preview images to be acquired at the same dose as traditional 2D scanograms – it's called a 3D Landmark scan.

Using data from this, Canon's Anatomical Landmark Detection (ALD) can accurately identify the anatomical structures required to perform automatic scan planning for all routine examinations. ALD enables the scan range and field of view to be automatically set to the same position predefined in the scan protocol, which saves time and ensures consistent results for CT technologists.

Scan the code or click [HERE](#) for more information



INSTINX

Complete workflow on the Aquilion ONE / INSIGHT Edition CT is streamlined with Canon's INSTINX – our holistic workflow solution that creates new standards in efficiency and consistency.

INSTINX was specially designed to enhance every aspect of imaging - from patient positioning right through to equipment maintenance. It features a host of Canon's most advanced technologies and innovations. Wherever possible, automation is employed to make operations easier, faster, and more consistent. Overall, INSTINX helps accelerate and improve workflow, save time, enhance work satisfaction, and enable flexible allocation of resources, which, together, all contribute towards creating more time to focus on the patient.

Scan the code or click [HERE](#) for more information



Alphenix 4DCT
with Aquilion ONE / INSIGHT Edition

One Room.
Endless Possibilities.

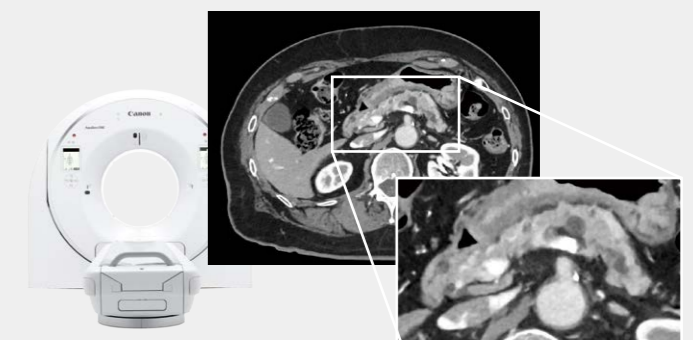


Aquilion ONE
INSIGHT Edition

Precise IQ Engine (PIQE)
Simple. Clear. Precise.

- 80 cm bore
- 16 cm volume scan coverage with 640 slices*
- Advanced intelligent Clear-IQ Engine (AiCE) / PIQE

*: coneXact double slice technology



Tsutomu Fujita, M.D.
Honorary Chairman,
Medical Corporation Sapporo Heart Center

Why Sapporo Heart Center, One of the Leading PCI Centers in Japan, Chose Alphenix

Sapporo Cardiovascular Clinic is one of the leading high-volume PCI centers in Japan, performing more than 2,000 procedures every year. Dr. Tsutomu Fujita is the founder and Honorary Chairman of Sapporo Heart Center (currently serving at Bali International Hospital in Indonesia). We interviewed Dr. Fujita, who considers Alphenix to be the best angiography system for performing CTO procedures, and asked him to describe how they introduced their Alphenix system and to discuss what they are currently focusing on at Sapporo Heart Center.

Aspiring to becoming a cardiologist at the dawn of catheterization

When I graduated from Asahikawa Medical University, there was no residency system as there is today, so students had to select a specific clinical department immediately after graduation. However, because I wanted to gain experience in a variety of clinical departments, including the emergency

department, I decided to move to Sapporo Tokushukai Hospital after leaving university.

I became interested in cardiology around that time. Catheterization had just been introduced, and I decided to become a cardiologist. Back then, there were very few physicians who could perform open heart surgery for myocardial infarction, and there were also very few hospitals in Hokkaido where coronary



Sapporo Heart Center in Sapporo, Japan, is a high-volume PCI center that performs more than 2,000 procedures per year.

artery bypass surgery was available. In addition, early therapeutic catheterization procedures took four or five hours and were performed via a large tube placed in the leg. Angiography systems were analog, and the acquired images had to be printed out on film, which meant that the images couldn't be reviewed until the film was developed. The first angiographic system I used in those days was a left-side access system manufactured by Toshiba Medical Systems (currently Canon Medical Systems). I remember how challenging it was to perform catheterization procedures using that system.

1,600 PCI cases treated in the first year of operation

I left Sapporo Higashi Tokushukai Hospital, which at that time was performing the most catheterization procedures in Hokkaido, and established Sapporo Cardiovascular Clinic. We initially planned to focus solely on cath-

eterization, and our team consisted of only four physicians, including myself. In the following year, we handled about 1,600 cases, a number that no facility had ever achieved before. When I was at Sapporo Higashi Tokushukai Hospital, no matter how hard we tried, it was difficult for us to handle more than 500 cases a year, so I never imagined that our clinic would be able to handle more than 1,600 cases.

When these outstanding figures were made public, some people took a critical view, suggesting that we were treating lesions that weren't clinically significant and didn't really require intervention. Dr. Osamu Kato really helped us deal with this situation. About two years after our clinic opened, he started visiting Sapporo once a month to teach us and to help us handle these unfounded rumors. We've enjoyed a long relationship since then, and I can say that he was truly our savior.

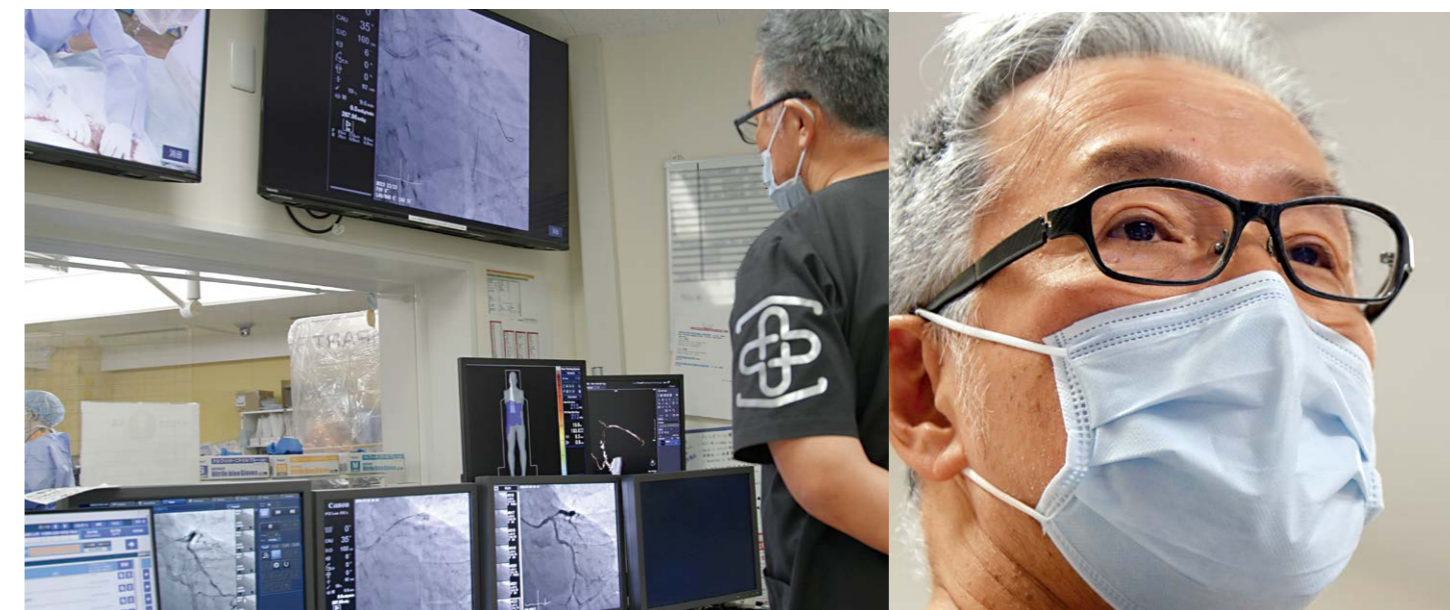
We established a cardiac surgery depart-

ment and introduced treatment using Rotablators as well as excimer lasers, which can be mounted to the tip of a catheter and used to vaporize plaque and thrombus in the coronary arteries.

Sapporo Heart Center's workflow: everything is in another dimension

We currently receive more than 10,000 patient referrals per year, which is about 30 to 40 referrals per day. To make sure we don't overlook any lesions, all our patients undergo a CT scan every one or two years. In addition, instead of searching through medical records each time, we've adopted a system in which we check the information reported by the staff, which allows us to examine patients very quickly. Of course, any abnormal findings are carefully investigated.

In the catheterization room, medical engineers confirm all the patient treatment details in advance, and physicians



are assigned to handle particular cases every morning. At most institutions, patients have an attending physician, and that physician usually performs the catheterization procedure. But with that approach, it's difficult for a physician to handle more than 10 cases a day within their working hours. So in order to operate the catheterization room more efficiently, we've adopted a system in which any physician who's available (even if they aren't the patient's attending physician) can perform the procedure and complete treatment in a timely manner. However if the case is expected to be particularly challenging (such as CTO) or if the patient strongly requests my involvement, they're assigned to either catheterization room 2 (with our Canon Alphenix) or catheterization room 1, so I can quickly jump in as needed during my outpatient clinic hours.

Adopting all the challenging techniques of outstanding teachers

I'm lucky to have observed many surgical procedures performed by physicians who are very skilled at catheterization. Whenever I heard that live demonstrations were going to be conducted by Dr. Osamu Kato, the late Dr. Hideo Tamai, Dr. Takahiko Suzuki, Dr. Shigeru Saito, or the late Dr. Kazuaki Mitsudo, I'd be sure to go and see all of them. The

experience I gained by attending these demonstrations has been an invaluable asset to me. The skill and aggressiveness of these five experts back then is just incredible. It's amazing how they could maintain such intense concentration during long procedures, such as treatment using a directional coronary atherectomy catheter (DCA catheter, a device used to ablate atherosclerotic plaques in the coronary arteries) after carefully crossing the guidewires. Their live demonstrations taught me how far physicians could push themselves for their patients.

The essence of angiography procedures can be learned by first carefully observing the techniques of skilled experts and then imitating them. So I imitated everything I saw and digested what I learned to develop my own skills. And I was finally able to get a clear idea of how to complete procedures in an easy, simple, and safe manner. During the course of my studies in catheterization, many new devices have been introduced, including the balloon catheter, the bare metal stent (BMS, a metal mesh device implanted using a catheter to treat coronary artery stenosis), the drug eluting stent (DES, a stent coated with a drug to prevent restenosis), the Rotablator, and the DCA catheter. I was able to become familiar with these devices one by one as they were introduced, and I could take my time. That allowed me to keep

up with all the new technologies. But it's a lot different now. Physicians need to quickly reach a level of competence with all these devices at the same time. It's hard for young physicians to achieve this without first emulating experienced physicians who've already gained proficiency in the use of these devices.

I'm a pretty tenacious person. As for CTO, I just can't let it go until I get to the bottom of it. We're actively using both the Rotablator and the excimer laser in our pursuit of simpler and easier CTO procedures. In other words, you can't reach the core of the issue unless you give it your all. Sure, I listen to others, but I still want to see for myself. I'm someone who's gained experience based on my own trial and error, learning from my own mistakes. And I hope to continue moving forward in the same way in the future.

An impressive evolution: Canon's angiography system has continually developed over the years

When catheterization procedures were first introduced, we were using an analog angiography system produced by Toshiba Medical Systems. However when digital angiography systems were developed by manufacturers from other countries, we switched to a system from a different company and

“There is a truth that comes to light when you focus on how easily we can perform CTO-PCI.”

*Tsutomu Fujita, M.D.
Honorary Chairman, Medical Corporation Sapporo Heart Center, Japan*

used it continuously for many years. We ultimately made the decision to switch to Canon's new angiography system Alphenix after we attended various live demonstrations presented by other facilities. We clearly saw that the image quality of Alphenix was superior to that of our system.

With regard to image quality, another outstanding feature of Alphenix is that it has more "room" for image quality adjustment and optimization than systems from other manufacturers. For example, when we consulted with Canon service engineers about adjusting the image quality to ensure clear visualization of wires, they immediately adjusted the image quality to meet our requirements.

The applications are also quite compre-

hensive. For example, I really like the Dose Tracking System (DTS) function, which allows us to manage the patient exposure dose in real time during the procedure. X-ray exposure is unavoidable in angiography, and DTS is a very useful function for clearly seeing how much dose the patient has received. I think that carefully managing the patient exposure dose is an essential part of our job, and DTS has been very helpful to us.

The most important expectation we have for an angiography system is that it should help us maximize our performance. Since our new Alphenix system differed in so many ways from the previous system that we'd become accustomed to over the years, we requested a number

of adjustments to optimize its operation to suit our preferences. Canon service engineers did exactly as we requested, and now that we've used our Alphenix to perform more procedures, we've become very comfortable with it. I think that Alphenix provides the best quality of any angiography system and is ideal for performing CTO procedures. The exposure dose is also very low, and we now actually use our Alphenix to perform all CTO procedures. Alphenix provides images that are clearer than we expected, and even in general diagnostic catheterization, the system allows us to clearly visualize devices, blood vessels, and other structures. The system has also proven itself to be quite reliable and is tough enough to handle the high workload at Sapporo Heart Center. //

"Alphenix is an especially effective system for CTO procedures!"

*Tsutomu Fujita, M.D.
Honorary Chairman, Medical Corporation Sapporo Heart Center, Japan*



"Currently, the system of choice for CTO is our Alphenix from Canon. That's because it provides the best performance of any angiography system for performing CTO procedures, with excellent image quality and extremely low exposure dose. Moreover, Alphenix has proven itself to be tough enough to handle the high workload at Sapporo Heart Center."

*Tsutomu Fujita, M.D.
Honorary Chairman, Medical Corporation Sapporo Heart Center, Japan*



Dr. Fujita says it's essential for an angiography system to help operators maximize their performance. Our service engineers made careful adjustments so that the operational characteristics of Alphenix closely matched those of the user's previous system, leading to the positive evaluation that "Alphenix is the system of choice when we perform CTO procedures."

TSUTOMU FUJITA
Honorary Chairman,
Sapporo Heart Center Medical Corporation

[Career summary]

- 1986 Graduated from Asahikawa Medical University
 - 1986 Joined the Department of Cardiology, Sapporo Tokushukai Hospital
 - 1989 Joined the Department of Cardiology (CCU), National Cerebral and Cardiovascular Center
 - 1990 Joined Sapporo Higashi Tokushukai Hospital
 - Appointed Vice President of the hospital and Director of the Cardiovascular Center
 - 2008 Established Sapporo Cardiovascular Clinic
 - 2011 Appointed Chief Medical Officer of Medical Corporation Sapporo Heart Center
 - 2019 Appointed to serve concurrently as Director of Sapporo Cardiovascular Clinic
 - 2025 Appointed Honorary Chairman of Medical Corporation Sapporo Heart Center
- *Currently serving at Bali International Hospital, Indonesia

Dr. Swaroop Gopal,
Aster International Institute of Neurosciences
at Aster Whitefield Hospital, Bengaluru

Precision in Every Pulse: Aster's Cath Lab Elevates Care with Canon's Alphenix Biplane

In a field where every millimeter counts and every second matters, neurointervention demands nothing less than technological precision, clinical expertise, and visionary leadership. Rising to meet this challenge, Aster International Institute of Neurosciences at Aster Whitefield Hospital, Bengaluru, India has established a cutting-edge neuro catheterization lab equipped with Canon Alphenix Biplane system — a move poised to redefine standards of care in India's neurovascular landscape. Spearheaded by renowned neurosurgeon and neurointerventionist Dr. Swaroop Gopal, this strategic upgrade marks the beginning of a new chapter in advanced stroke care, complex aneurysm treatment, and minimally invasive brain interventions. At the intersection of innovation, training, and patient-centric design, Aster and Canon are not just delivering better outcomes — they're shaping the future of neuro care.

In the dynamic and ever-evolving world of medical technology, neurointervention stands out as one of the most complex and rapidly advancing specialties. With conditions such as stroke, aneurysms, and vascular malformations requiring timely, precise interventions, the role of high-end imaging and catheterization systems becomes paramount. Recognising this imperative, Aster International Institute of Neurosciences at Aster Whitefield Hospital, Bengaluru, has taken a bold step forward by establishing a next-generation neuro catheter-

ization (cath) lab powered by Canon's Alphenix Biplane system. At the helm of this transformation is Dr. Swaroop Gopal, Group Director – Neurosciences and Spine Care at Aster, a veteran neurosurgeon and neurointerventionist who brings with him a unique hybrid approach, seamlessly integrating open surgical techniques with endovascular interventions. His vision for the institute is clear: to build a future-ready hub for neurovascular excellence, blending clinical acumen with technological innovation.



A new era for Aster's Neuro Sciences

"We've just launched the institute and installed the Canon Alphenix Biplane a few months ago. It's still early days, but our vision is ambitious," shares Dr. Gopal. "We intend to make this center one of the most advanced neurointerventional facilities in the region — not just in terms of procedures but also in education and training." Training the next generation of specialists is a core part of Aster's roadmap. As neurointervention gains recognition as a minimally invasive yet highly precise discipline, the need for hands-on, real-world exposure to complex technologies like the Alphenix system becomes vital. "Many young doctors are eager to enter this field. What they need is a platform that allows them to learn gradually, safely, and thoroughly. That's

what we aim to offer," he adds.

From X-ray to biplane: Technology's leap in neurosurgery

Dr. Gopal has personally witnessed the evolution of neurointervention from its rudimentary days to its current sophistication. "We started off using basic X-ray machines, then moved on to portable C-arms and monoplane systems. Now, with biplane systems like Canon's Alphenix, the quality and safety of procedures have reached an entirely new level," he explains. According to him, a major shift in the field has been the rise of stroke intervention — a previously under-recognized but now rapidly growing aspect of neuro care. "The awareness around stroke is increasing, and so is the demand for timely, precise, and

effective intervention. Biplane imaging enables us to navigate delicate brain vessels with extraordinary clarity, ensuring optimal outcomes for patients."

Precision imaging: The heart of safer interventions

Neurointervention, by nature, deals with millimeter-level precision inside the most delicate organ — the brain. Here, image quality is not just a value-add; it's a lifeline. Canon's Alphenix Biplane system, with its High-Definition detectors and advanced image processing, delivers unparalleled clarity, especially when visualizing small, tortuous vessels. "Hi-Def resolution was one of the main reasons we chose Canon," Dr. Gopal states.



"High-Definition Imaging helps us achieve a level of visual clarity that directly translates to safer procedures. The ability to see minute vessels clearly helps us plan, navigate, and execute interventions with accuracy."

Dr. Swaroop Gopal, Aster International Institute of Neurosciences at Aster Whitefield Hospital, Bengaluru, India

Features such as Illuvis noise reduction, Auto Pixel Shift, and Super Noise Reduction Filters (SNRF) ensure that the image stays sharp and aligned even during complex DSA runs. This is particularly important during cerebral aneurysm treatments or intracranial stenting, where minute errors can have significant consequences.

Improving workflow and enhancing patient experience

Since the installation of the Canon Alphenix system, Aster's neuro cath lab has performed nearly 200+ procedures, including both diagnostic and complex interventional cases. One notable shift has been the lab's transition from transfemoral to transradial access for many procedures. "Patients undergoing radial interventions can often go home the same day. There's less trauma, faster recovery,

and higher patient satisfaction," he explains. "Canon's Alphenix platform supports radial access extremely well, allowing smoother navigation and setup." The Alphenix Tablet, a compact control panel located table-side, provides

physicians and technicians real-time control over system settings and views. "You don't need to leave the table or depend entirely on external operators. This hands-on control streamlines the procedure and keeps the entire team aligned," he says.



"The system's ease of use, speed, and intuitive interface have transformed our workflow."

Dr. Swaroop Gopal, Aster International Institute of Neurosciences at Aster Whitefield Hospital, Bengaluru, India



Dose efficiency: A win for safety and compliance

Another standout feature of the Canon Alphenix system is its comprehensive suite of DoseRite technologies, designed to reduce radiation exposure without compromising image quality. Tools such as Spot Fluoroscopy, Dose Tracking System (DTS), and gridcontrolled pulsed fluoroscopy enable precise dose control, visual feedback, and safer operations — for both patient and operator. “This helps us avoid threshold breaches and ensures longterm safety,” says Dr. Gopal.

Enabling learning and continuous improvement

The Alphenix Biplane is not just an intervention tool — it’s also a teaching platform. For a specialty like neurointervention, which demands long learning curves and extreme precision, the role of imaging in education is immense. “When trainees see high-definition, 3D visualization of vessels, they learn faster. The ability to understand anatomy in real time, during live cases, is an advantage I never had during my training,” says Dr. Gopal. He believes Canon can further enhance this value by offering structured

hands-on training, simulation modules, and real-case feedback sessions. “As new features and updates roll out, we’re eager to test them and provide Canon with data to help them refine their systems. This mutual learning loop is beneficial to everyone — especially the patients.”

What lies ahead: Custom innovation for Indian needs

Dr. Gopal is clear that while global standards are valuable, there must be customization for regional realities. “Our patient demographics, volume, and procedural workflows are unique. The way we use imaging technology

in India may differ from Japan or the West. Canon has shown openness in understanding this, which is encouraging.” Looking forward, he hopes for even more India-centric innovations — such as locally adapted dose protocols, AI-enabled diagnostic overlays, and tools that integrate seamlessly with hospital IT systems and PACS. “Canon’s strength lies in their engineering depth and their collaborative attitude. If they continue to engage with us on the ground and incorporate our feedback, the future is very bright,” he adds.

Canon Alphenix Biplane System: Transforming Neurovascular Intervention

Canon’s flagship Alphenix Biplane cath lab system combines intelligent imaging, advanced dose control, and workflow automation to support high-precision procedures across neuro, cardiac, and peripheral applications.

Key features:

- High-Definition Imaging with up to 6.58 lp/mm resolution
- DoseRite suite with real-time dose tracking, spot fluoro, and pulsed fluoroscopy
- 3D Roadmapping, CBCT, and Cerebral Aneurysm Analysis tools
- Metal Artifact Reduction (MAR) for better clarity around implants
- Real-time overlay and fusion imaging with CT/MR datasets
- Stepping DSA and Parametric Imaging for vascular mapping and contrast dynamics
- Dynamic Device Stabilizer for stent visualisation even during cardiac motion

Conclusion: Redefining Neuro Care, one innovation at a time

The launch of the Canon Alphenix Biplane system at Aster Whitefield marks a milestone not just for the hospital, but for neurointervention in India. With a clear focus on precision, safety, and education, this collaboration is setting new benchmarks in how technology can transform patient outcomes.

As Dr. Gopal puts it, “The brain is an unforgiving organ. Our responsibility is to approach it with the best tools, utmost care, and a commitment to continuous learning. Canon’s Alphenix system helps us do exactly that.” //

This article was produced by Erbis Engineering Co., Ltd. and published in Express Healthcare on August 8, 2025.

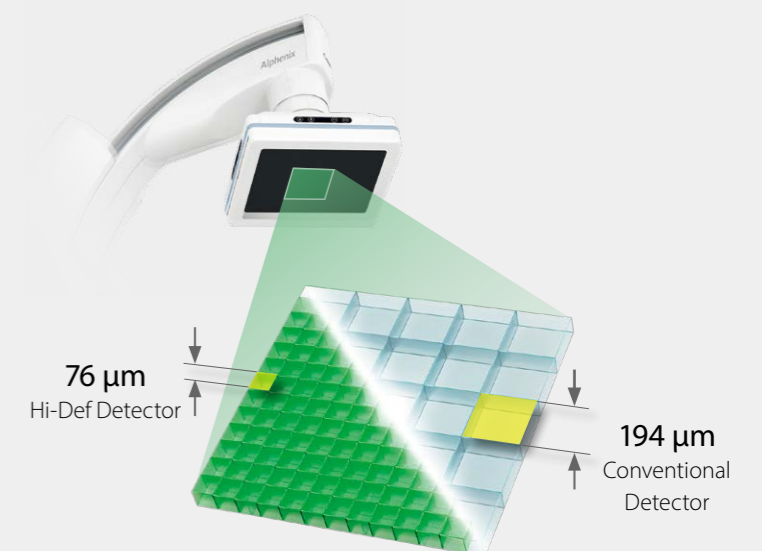
“Radiation safety is a huge concern in neurovascular procedures. With Canon’s DTS, we can see dose maps in real-time and adjust accordingly.”

Dr. Swaroop Gopal, Aster International Institute of Neurosciences at Aster Whitefield Hospital, Bengaluru, India



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.



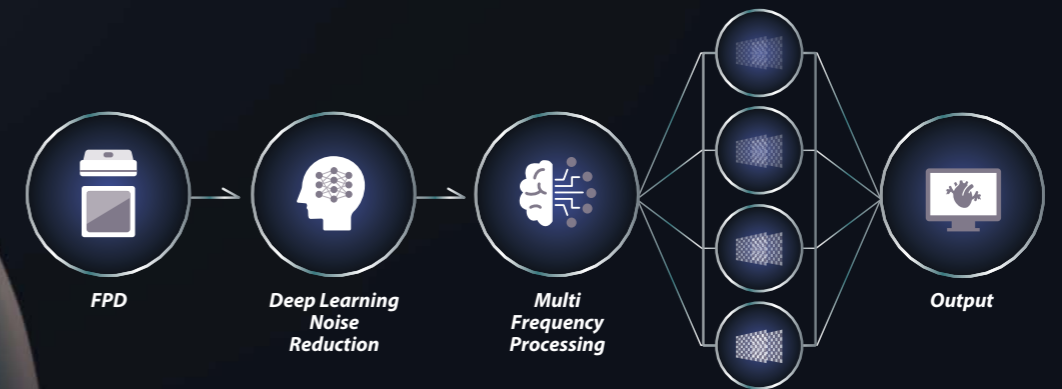


See Clearer with aEvolve Imaging, in real-time

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 aEvolve Imaging can deliver up to 2 times higher contrast-to-noise ratio compared to conventional image processing.

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



A Vision of the Future of Interventional Cardiology: EuroPCR 2025 Congress Report

From May 19 to 22, EuroPCR 2025—the world’s leading course in interventional cardiovascular therapy—was held in Paris, France. As one of the largest global congresses dedicated to minimally invasive procedures, EuroPCR attracts physicians and healthcare professionals from around the world to exchange insights on the latest advancements in interventional cardiovascular therapies. This year, the event welcomed a record-breaking 12,177 attendees, reflecting a growing interest in this ever-evolving field.

Canon showcased the latest innovations of the Alphenix / Evolve Edition through its exhibition booth and a dedicated off-site symposium.



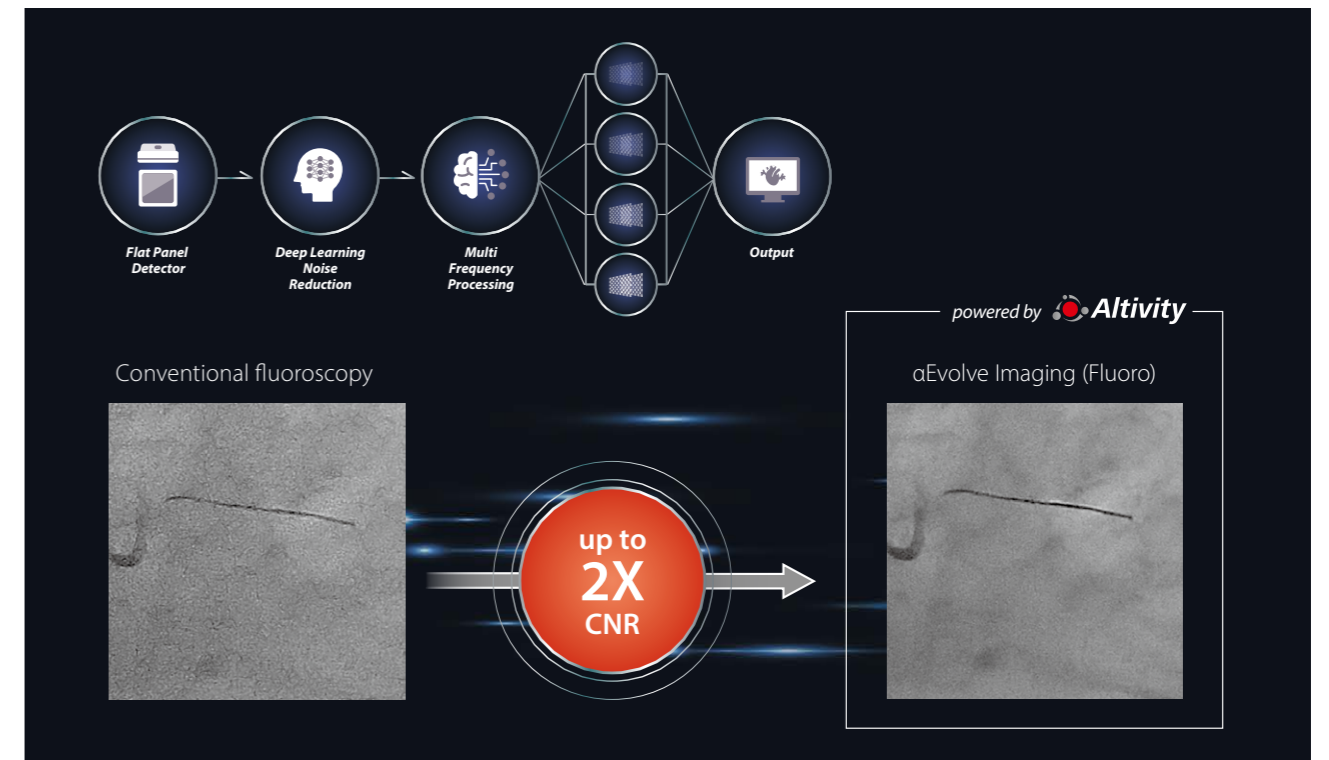
Innovative Booth Experience

This year, Canon introduced a dedicated Experience Room, allowing visitors to review clinical images with the newly released second-generation α Evolve Imaging. Attendees from across Europe, as well as Australia, Pakistan, Saudi Arabia, and Malaysia, participated in a structured survey to evaluate the clinical value of this new imaging technology.

The feedback was highly positive, not only regarding the image quality, but also toward Canon’s forward-thinking concept of “DA-less intervention”. This approach, which emphasizes reduced reliance on digital acquisitions (DA), resonated strongly with interventional cardiologists and clinicians seeking to minimize radiation exposure while maintaining high procedural confidence.

Offsite Symposium: “Activating AI for DA-Less Procedures”

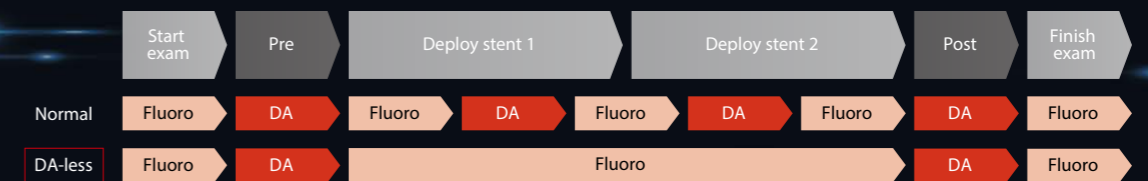
Canon hosted an off-site symposium at Le Méridien Etoile, targeting international healthcare professionals with a strong interest in advancing interventional cardiology and radiation dose management. The objective was to deepen understanding of the clinical value of the Alphenix / Evolve Edition and to encourage active dialogue among healthcare professionals.



α Evolve Imaging utilizes Deep-Learning based noise reduction and multi-frequency processing to enable outstandingly clear fluoroscopic imaging, which can deliver up to two times higher contrast-to-noise ratio compared to conventional image processing.

DA-less intervention with α Evolve Imaging

Dose management is increasingly important, especially during long and complex procedures. Digital acquisition (DA) delivers significantly higher radiation dose than fluoroscopy. Therefore, replacing DA with fluoroscopy can substantially reduce radiation doses*1.



Record fluoroscopy with one step
F-Rec allows for fluoro-recording with a single pedal tap, following the same workflow as digital acquisition.



*1 Hwang J, et al. (2015) Radiation Exposure in Coronary Angiography: A Comparison of Cineangiography and Fluorography.

DA-less Intervention concept: By performing procedures using fluoroscopy alone or with minimal use of digital acquisition, the total radiation dose per case can be significantly reduced without altering established clinical workflows.



Mr. Glenn Ison (Medical Radiation Scientist, Sydney, Australia)

“Evolution 2010 to Now”

An expert in radiation dose management and a three-time recipient of the Best Scientific Abstract Award in the Nurses and Allied Professionals (NAPs) section of EuroPCR (2017, 2023, and 2025), Mr. Ison opened the symposium with an overview of Canon’s commitment to reducing radiation exposure in cardiovascular procedures. He described radiation exposure as “an

invisible danger received throughout an interventionalist’s working life, insidious, often forgotten, and downplayed,” emphasizing the critical importance of optimizing dose levels in daily practice. He also presented preliminary findings from ongoing research with Dr. Pasupati, reporting a 41% reduction in radiation dose per coronary angiography case when using αEvolve Imaging.

“Every 3 cases on an Alphenix / Evolve Edition using fluoroscopy, you save a whole case worth of doses.”

Mr. Glenn Ison, Medical Radiation Scientist, Sydney, Australia

	Fluoroscopy dose rate DAP/Sec Gy.m2	Fluoroscopy Time	Total case Dap Gy.m2	Acquisition dose rate DAP /Sec Gy.m2	BMI
Cath Comparison	Fluro Dap / sec	Fluro Time	DAP Case Total	Acquisition dose per sec	BMI
Evolve	3.89 e-6*	744	0.0034	4.47E-05	31.18
Non Evolve	3.82 e-6	857	0.0057	4.11E-05	28.56

Fluro dose rate the same Evolve Fluro -14.% Superior image quality **Evolve total case dose - 41 %** Acquisition dose rate the same Evolve cohort BMI 8.5 % higher

* Converted to 10 frames a sec

Pioneer data from Waikato Hospital, New Zealand. Data demonstrated a 41% reduction in dose area product (DAP) per coronary angiography case.



Prof. Tomasz Pawlowski (National Institute of Medicine of the Ministry of Internal Affairs and Administration, Warsaw, Poland)

“Alphenix / Evolve Edition is Changing My Daily Practice”

Prof. Pawlowski, who also serves as Secretary of the Polish Cardiac Society, shared real-world cases using the Alphenix / Evolve Edition since introducing the system to his facility.

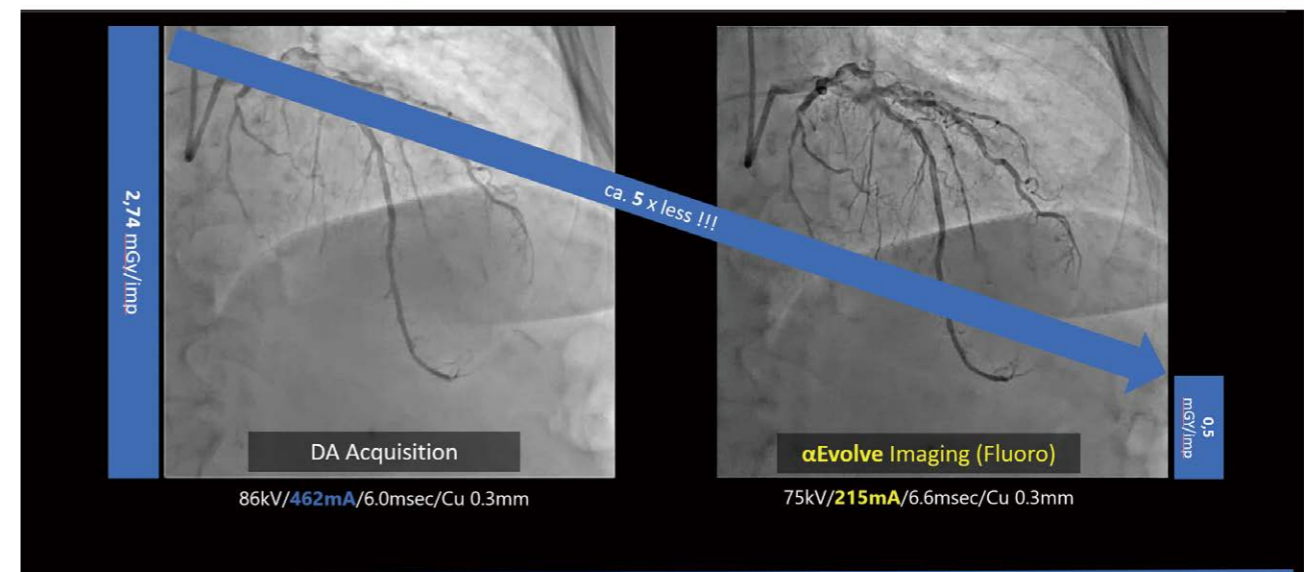
Incorporating an interactive quiz, his engaging session clearly demonstrated how the system is transforming diagnostic and interventional workflows in daily clinical practice.

“We are still analyzing the data, but looking at diagnostic angiographic cases for this short period experience, there is a reduction in dose of more than 20%.”

Prof. Tomasz Pawlowski, National Institute of Medicine of the Ministry of Internal Affairs and Administration, Warsaw, Poland

Which one is fluoroscopy?

BMI 32



Państwowy Instytut Medyczny MSWiA w Warszawie

Comparison between digital acquisition and αEvolve Imaging fluoro images for the same patient. αEvolve Imaging achieves equivalent image quality comparable with digital acquisition while reducing radiation dose by approximately 80%.



Dr. Sanjeevan Pasupati (Director of Structural Heart Disease & Cardiovascular Research, Waikato Hospital, Hamilton, New Zealand)

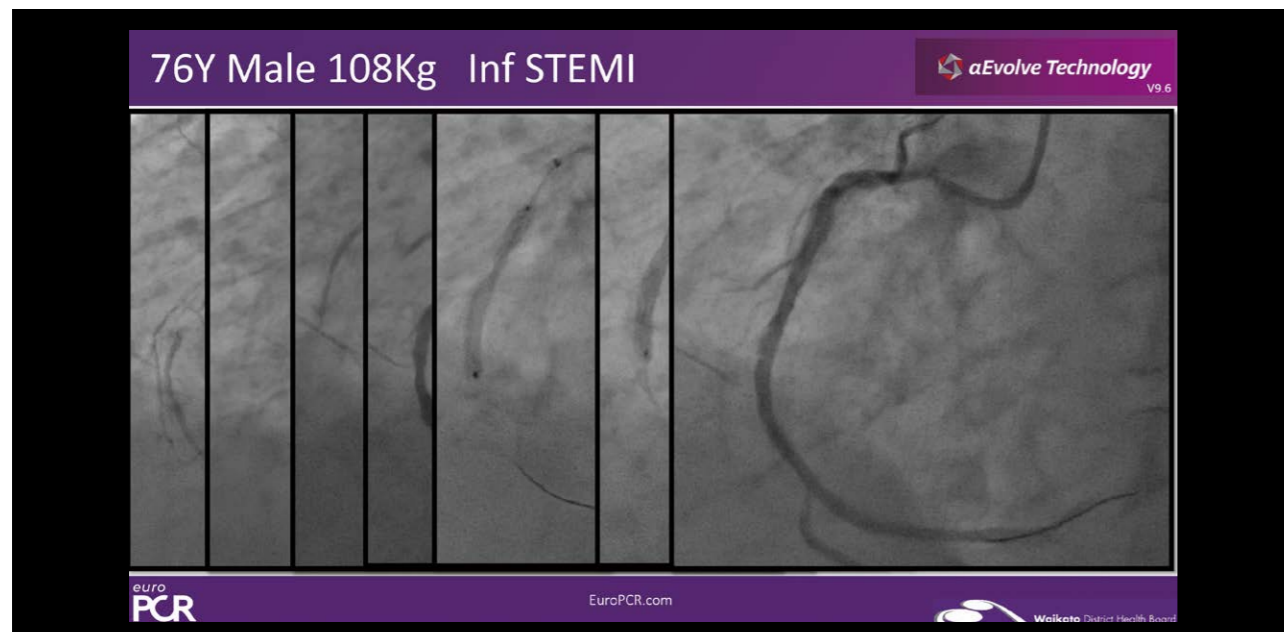
“Step into the Future of Interventional Cardiology with DA-less Procedures”

Dr. Pasupati, who has been involved in numerous first-in-human trials and serves as a proctor for various interventional devices around the world, began evaluating the second-generation

aEvo Imaging recently. He presented his initial clinical experiences, including a standout case involving a 108 kg patient, whose procedure was completed entirely under fluoroscopy without any digital acquisitions, demonstrating the full potential of DA-less Intervention.

“In this era, patients are getting bigger while stents are getting thinner, and cath-labs demand image quality, less radiation, speed, and efficiency. All of these are answered by aEvo Technology.”

Dr. Sanjeevan Pasupati, Director of Structural Heart Disease & Cardiovascular Research, Waikato Hospital, Hamilton, New Zealand



DA-less PCI procedure in a 76-Year-Old, 108 kg Male with Inferior STEMI. The entire case was performed only under fluoroscopy.

With unique solutions like aEvo Imaging utilizing advanced AI technologies, Canon remains committed

to advancing interventional cardiology across the globe. // through ongoing innovation and close collaboration with clinical partners

The Alphenix Sky - Zooming in on Genicular Artery Embolization

Genicular artery embolization (GAE) is still a relatively new, minimally invasive, interventional procedure that is used to treat knee osteoarthritis without surgery. The exceptional flexibility of Canon’s Alphenix Sky Interventional suite is enabling interventional radiologists to implement this effective procedure with ease and enhanced safety.

Dr. Turki Dhahi, Vascular and Interventional Radiology and Interventional Oncology Consultant at King Fahad General Hospital in Medina, Saudi Arabia, explained the advantage of using the system for GAE.

Osteoarthritis (OA) is a degenerative joint condition that affects more than 500 million people worldwide¹.

In this debilitating condition, the cartilage which normally protects the ends of bones within a joint, wears down. This causes pain, swelling and stiffness

and can limit the movements of those affected by it, as cartilage is the body’s normal ‘shock absorber’. Once cartilage breaks down, it cannot grow back again.



Dr. Turki Dhahi, Vascular and Interventional Radiology and Interventional Oncology Consultant, King Fahad General Hospital, Saudi Arabia



A common problem

OA most commonly affects the knee joint. Of the 528 million people living with OA globally, an estimated 365 million (69.13%) have OA situated in the knee joint¹. While it is not exclusively associated with aging, the prevalence of OA is expected to continue to increase globally, with aging populations and increasing rates of obesity and injury.

Depending upon the severity of the OA in the knee, traditional treatments include non-surgical approaches such as exercise, physiotherapy, braces and other assistive technologies; medicines, such as non-steroidal anti-inflammatory drugs (NSAIDs) for pain relief, or steroid injections. Surgical options include joint replacement surgery for people with severe symptoms. However, surgical solutions involve risk and long recovery. They are not a preferable option for many patients and surgery is not even possible for patients with a very high BMI.

An advanced, non-surgical solution

Interventional Radiologists are increasingly performing knee embolization, also known as genicular artery embolization (GAE) - a minimally invasive procedure that targets the inflammatory process in the synovium – the lining of the knee. Successfully implemented, it blocks the blood flow to specific tiny blood vessels that feed into the synovium in the areas of inflamma-

tion. The inflammation subsides rapidly when the blood vessels are blocked or the blood flow to that specific area is slowed.

Knee embolization for treatment of osteoarthritis was pioneered in Japan² and has been subsequently studied significantly in the USA, Europe and the UK. Research is showing good results in the treatment of knee OA with lasting and significant pain relief within one to two weeks.

A significant healthcare burden in Saudi Arabia

Recent studies have shown a high prevalence of knee OA in Saudi Arabia and identified a need to decrease the burden of the problem and the cost of treatment³.

The King Fahad General Hospital in Medina, Saudi Arabia, is an 500 bed capacity. The hospital offers health services in various specializations

Canon's Alphenix Sky

Optimize flexibility with 270° unrestricted access around the patient and 201cm full patient coverage without needing to move the individual or table. The system's innovative Dose Tracking System will also provide enhanced dose awareness, estimating skin dose in real time and displayed as a 3D color map on a patient graphic. This helps exclude regions of previous high exposure.

including: neurology, general surgery, gastrointestinal and endoscopy, nephrology, orthopedic surgery, physical therapy, and radiology department is supporting all the facilities with the diagnostic clinical imaging. Radiology department is powered with different modalities from Canon high-end CT system (Aquilion Prime SP) and the premium interventional system Alphenix Sky installed in 2020.

Dr. Turki Dhahi is a Vascular and Interventional Radiologist and Interventional Oncology Consultant at the Hospital. To illustrate how useful the system is supporting non-surgical treatment of knee OA, he explained a case from May 2025.

“We had a 56-year-old female patient suffering from chronic right medial knee pain due to moderate osteoarthritis. She was highly dependent on analgesics and had significant difficulty walking,” he said. “The patient refused surgical intervention, so we offered her an advanced, minimally invasive solution - genicular artery embolization.”

“This procedure was performed using the Canon Alphenix system, and the results were outstanding,” he continued. “The patient is now pain-free and off medications.”

Dr. Dhahi explained how several features of the Canon played a critical role in this success.

“Color-Coded Circulation (CCC): helped us assess the flow patterns within the



King Fahad General Hospital in Medina, Saudi Arabia



“With the features of the Alphenix Sky, both safety and efficacy are improved.”

Dr. Turki Dhahi,
Vascular and Interventional Radiology and Interventional Oncology Consultant,
King Fahad General Hospital, Saudi Arabia

genicular branches, ensuring that we targeted the correct vessels while preserving normal tissue perfusion,” he remarked.

The Alphenix Sky system's ceiling-mounted flexibility allowed full access around the knee without repositioning the patient, which enabled Dr. Dhahi to achieve a smoother workflow, shorter procedure time, and better comfort for the patient.

“Live Zoom was also critical,” he added. “We were able to magnify the image in real time without increasing radiation dose or losing resolution. That gave us a clear view of the small genicular branches improving the accuracy of microcatheter placement and embolic delivery.”

Better outcomes

Dr. Dhahi feels that The Alphenix Sky has so much potential and could enhance outcomes across many other IR procedures.

“They can significantly enhance outcomes in large-scale procedures such as arteriovenous malformation embolization, tumor embolization, uterine fibroid embolization, and prostatic artery embolization.”//

References:

- World Health Organization (WHO) Fact Sheet on Osteoarthritis: <https://www.who.int/news-room/fact-sheets/detail/osteoarthritis>
- Okuno Y, Korchi A.M., Shinjo T, Kato S. Transcatheter Arterial Embolization as a Treatment for Medial Knee Pain in Pa-tients with Mild to Moderate Osteoarthritis. Cardiovasc. Intervent. Radiol. 2015;38:336-343. doi:10.1007/s00270-014-0944-8. <https://pmc.ncbi.nlm.nih.gov/articles/PMC11943379/#sec2-jcm-14-02106>
- Prevalence of Symptomatic Knee Osteoarthritis in Saudi Arabia and Associated Modifiable and Non-Modifiable Risk Factors: A Population-Based Cross-Sectional Study by Omar W Althomali et al.: <https://pmc.ncbi.nlm.nih.gov/articles/PMC10001239/#abstract1>

Scan the code or click [HERE](#) to view Dr. Turki Dhahi's full interview video



Installation at Medcover Group Hospitals India, at Bangalore



Installation at Medcover Group Hospitals India at Pune



At the Heart of Patient Care: Consolidating Cardiology Services in India

Medcover, a global medical group which is headquartered in Sweden, has consolidated its world-class cardiology services in India, employing the latest technology from Canon. Formerly known as Maxcure Hospital, it became the Medcover Group in 2017. By 2024, Medcover India operated 24 medical service facilities in four main regions in the country, including Telangana, Andhra Pradesh, Maharashtra, and Karnataka.

Medcover's aim is to increase its role in providing high quality healthcare throughout India and the world, with the mission of providing European-standard medical services to all who need them. Medcover India is working together with Canon to achieve this and recently was provided with three

Canon Alphenix angiography systems. VISIONS Special spoke with Dr. Anil Krishna Gundala, an Interventional Cardiologist, Chairman and Managing Director of Medcover Group Hospitals India, about his inspiring journey in healthcare, his past experiences, future ambitions, and the partnership with Canon, which is set to redefine

healthcare in India.

"As the CEO of Medcover Group Hospitals in India, my journey in healthcare began not from the corporate heights, but at the very heart of patient care—as an Interventional Cardiologist."



"Life-saving treatment should be accessible to everyone, everywhere."

*Dr. Anil Krishna Gundala,
Chairman and Managing Director,
Senior Interventional Cardiologist, Medcover Group Hospitals, India*

"My path was profoundly influenced by a personal ordeal. My father suffered a sudden heart attack, and we had to rush him from our home at Nellore to Chennai (a distance of 185km) to find the appropriate medical care. This experience instilled a deep resolution in me to pursue cardiology, driven by the conviction that life-saving treat-

ment should be accessible to everyone, everywhere."

"Cardiac emergencies can strike without warning, and in such critical moments, having immediate access to specialized care can mean the difference between life and death. This belief inspired me to establish a hospital

where timely and top-tier cardiac treatment is always within reach."

"Supported by a dedicated team of partners who shared this vision, we built a facility equipped to provide 24/7 care throughout the year. Our hospital proudly hosts a team of 22 interventional cardiologists and six cardiac

“The system has not only met but exceeded our expectations, enabling us to provide the highest level of care to our patients.”

*Dr. Anil Krishna Gundala,
Chairman and Managing Director,
Senior Interventional Cardiologist, Medcover Group Hospitals, India*

surgeons, who operate around the clock to handle even the most complex cases.”

A beacon of hope

“With three catheterization labs, our hospital manages nearly 1,000 cases annually—a number that stands out as a remarkable achievement, even among neighboring institutions. Our Cardiac Surgery Department, too, has risen to the challenge, performing over 250 heart surgeries each year. These accomplishments are a testament to the relentless dedication of our team and the unwavering support of our partners.”

“The success of our Cardiac Department paved the way for us to expand our services beyond cardiology. We developed specialized departments for emergency care, trauma medicine, and interventional radiology, and have transformed our hospital into a super-specialty center that serves as a ‘beacon of hope’ for patients in the Hyderabad region and beyond.”

A golden opportunity

“In August 2017, our hospital took a significant step forward by joining the Medcover Group, marking the first time that an Indian hospital had ever become part of a European-based healthcare network.”

“This was more than a strategic alliance: It was a golden opportunity to elevate our clinical standards to European levels, thereby enhancing the quality of life for our patients

across India. Achieving such a milestone requires the best partnerships and joining Medcover was perfectly aligned with my vision of creating a hospital that patients instinctively trust for the highest quality care.”

Pushing the boundaries of technology

“Even during the global challenges of the COVID-19 pandemic in 2020, we continued to push the boundaries of innovation. We became the first hospital in India to invest in and implement robotic-assisted joint replacement technology. This pioneering move ensured that we remained at the forefront of providing minimally invasive treatments, and further consolidated our position as the preferred choice for advanced medical care.”

“As the demand for cardiac treatment continued to rise, it became clear that our aging angiography equipment needed an upgrade to keep pace with the growing number of cases. That’s when Mr. Kumaran from Cardiology Solutions at Erbis Engineering (Canon Medical’s distributor in India), and a long-standing partner in our technological advancements, introduced us to Canon’s Alphenix Angiography System.”

“Canon’s innovative low-dose radiation technology, the ergonomic design that enhances procedural efficiency, and the superior image quality with low dose compared to our existing equipment were all factors that made the Alphenix system the perfect choice

for our hospital. Moreover, Canon’s impressive track record of success in Europe and other international markets gave us the confidence to make the switch.”

Exceeding expectations

“As an Interventional Cardiologist, I remain closely connected to the operational aspects of our hospital. The feedback from our interventional cardiologists on using the Alphenix has been overwhelmingly positive. The system has not only met but exceeded our expectations, enabling us to provide the highest level of care to our patients. We are thoroughly satisfied with our decision to adopt Canon’s technology and are confident that it will continue to play a pivotal role in our future upgrades.”

“India’s interventional cardiology sector is brimming with potential, and while Japan’s market may be more mature, there is much we can learn from the expertise of Japanese leaders in the field.”

“As we continue to grow and evolve as a critical care center, I look forward to deepening our partnership with Canon. Together, we will ensure that our hospital remains at the cutting edge of medical technology, always ready to meet the needs of our patients and deliver world-class care that they can rely on.”

“The future of healthcare in India is bright, and with Canon as our partner, we are well on our way to setting new standards in cardiac care.” //

Fysicon QMAPP®

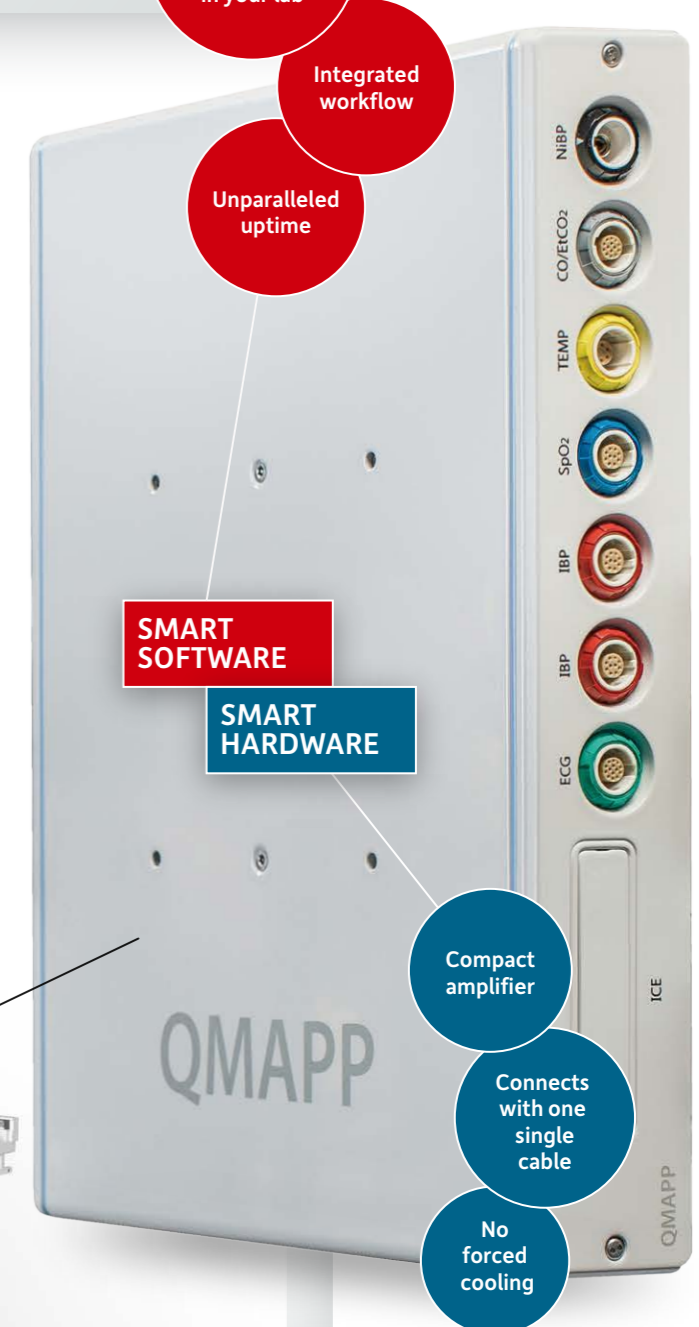
QMAPP provides:

- Non Invasive Blood Pressure
- Cardiac Output TD / FICK
- 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...

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.

The heart of your cardiac lab



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



Progress in Stroke Treatment with State-of-the-Art Magnification Technology

Tina Götting

New angiography system enables interventions even on small brain vessels.

Stroke, cerebral hemorrhage, aneurysm, vasoconstriction: for these vascular diseases, angiography not only enables precise diagnosis but also allows for minimally invasive, often life-saving treatments to be performed simultaneously.

Since the summer of 2023, a new, extremely powerful angiography system (Alphenix Biplane) from Canon has been installed at the Institute of Diagnostic and Interventional Neuroradiology at Hannover Medical School (MHH). The Alphenix Biplane

has a very high-resolution image detector, which enables optical magnification of the brain vessels by a factor of two and reduces radiation exposure. This means that patients can be offered even better treatment, for example, in the event of a severe stroke.



Professor Lanfermann (left) and his team are delighted about the new angiography equipment. Copyright: Karin Kaiser / MHH.

Alphenix Biplane.

Thrombectomy Removes Blood Clots

Every year, the Interventional Neuroradiology department treats around 700 people with various vascular diseases of the brain, spine, or spinal cord, as well as tumors of the head and neck. Around 220 of these are patients who have suffered a stroke.

The aim is to remove the blood clot in the cerebral vessel responsible for the stroke as quickly as possible in order to restore the blood supply to the brain. If this cannot be achieved with medication, a thrombectomy can be performed using angiography imaging. "This involves inserting a telescopic catheter system from the groin or forearm into the affected cerebral vessel and either aspirating the clot or pulling it out," explains Dr. Friedrich Götz, Head of Interventional Neuroradiology.

Proven Treatment Becomes Even More Effective

"The possibility of applying thrombectomy of brain supplying vessels soonest after stroke onset has significantly improved the stroke treatment success rate in recent years," says Prof. Heinrich Lanfermann, Director of the Institute of Diagnostic and Interventional Neuroradiology. Until now, the procedure has mainly been used when large blood vessels in the brain are blocked by a clot. The new angiography system installed in the department, Alphenix Biplane, now provides excellent additional options in this area.

Thanks to the high magnifications and excellent image quality, even smaller vessels that supply the speech center in the brain can now be shown very well, so that thrombectomies can also be carried out there under the best possible control. "This is a great benefit for the patients concerned," emphasizes Prof. Lanfermann.



New Possibilities, Less X-Ray Radiation

Another technical innovation of the system is the so-called Alpha CT Stent feature. It creates high-contrast CT-like slices of very small vessels and implanted stents. This is advantageous, for example, for the treatment of aneurysms (i.e., vascular protrusions): "The images allow us to see exactly whether the vessel wall apposition of the stent inserted for stabilization is sufficient or whether we still need to optimize its position," explains senior physician Dr. Omar Abu-Fares.

The neuroradiologist is also enthusiastic about another innovation, Alphenix Spot ROI: "With this innovation, the system works with less X-ray radiation. Only the selected target area is exposed to the necessary dose of radiation, while the surrounding tissue receives significantly less dose."

More Flexibility in Emergencies

The new angiography system fits perfectly into the existing technical equipment at the institute. It is located close to the CT and the extended and newly equipped anesthesia induction rooms. This means that patients do not have to be moved far during

treatment. "The best thing, however, is that we now have not just one, but two angiography units with identical technical equipment," explains Dr. Götz. "With these two devices, we are now extremely flexible. We can carry out planned interventions and also treat emergencies at the same time."

Close Collaboration with Other Specialty Areas

Diagnostic and interventional neuroradiology does not work on its own but in close cooperation with other specialties such as neurology, neurosurgery, anesthesia, angiology, vascular surgery, and ear, nose, and throat medicine. For example, neuroradiology is a permanent partner of the supra-regional certified stroke unit (i.e. the stroke unit of the Clinic for Neurology). It offers all diagnostic and therapeutic procedures for stroke patients around the clock, 365 days a year - including thrombectomy. Professor Lanfermann is certain that "Especially in stroke treatment, the new angiography system will bring us another big step forward." //

This article is a reprint from the international VISIONS magazine #43, published by Canon Medical Systems Europe B.V.

Dr. Sebastian Mafeld,
Vascular and Interventional Radiologist, UHN

Beyond the equipment: Reimagining the possibilities of an Angio Suite

As the University Health Network (UHN) embarked on an ambitious multi-year transformation, replacing the entire interventional radiology fleet with three Alphenix Sky + angio suites and three Alphenix Angio-CT systems, it was an opportunity to do things differently.

Medical equipment purchases often follow predictable patterns: evaluate specifications, negotiate contracts, install machines. This project was centred around a strong partnership and transforming the patient experience. Considerations included: How could these spaces feel less intimidating? What would help our teams work more effectively? How could cutting-edge technology coexist with human comfort? The goal: a space where technology and humans both thrive.

Dr. Sebastian Mafeld, Vascular and Interventional Radiologist, UHN explained to VISIONS Special how their new angio suites equipped with Canon Alphenix 4D CT and Alphenix Sky + deliver a comfortable, effective and efficient imaging experience for patients and healthcare professionals.

Ensuring that every patient receives an optimal experience in imaging, accurate diagnosis, and precise Interventional treatment is of paramount importance.



Image courtesy of the Levchuk Agency

Optimal patient comfort

The new angio suites at UHN have been designed with the patient and staff experience in mind. Reducing a patient's stress and anxiety was key in the development process.

"During a re-development process,

it is easy to get fixated on technical discussions and requirements," said Dr. Mafeld. "We tried to keep the patient experience at the forefront of this development process to ensure the patient journey was a key factor in decision-making aiming to reduce their stress and anxiety."

"It is about the patient's first impression of the room. It can be very intimidating to see a lot of medical equipment in one room," he continued. "A relaxed and comfortable patient is of the utmost importance and being intentional to make this happen. The environment is a signif-

icant contributor; this was addressed with multiple comfort features."

Upon entering the room, patients experience greater comfort through "Relax Mode" which offers a unique combination of customizable LED lighting, music, an ergonomic mattress, and calming visuals on the screens, instead of the usual X-ray imagery, provided locally by Canon Medical Systems Canada.

"This was a feature that we have developed closely with Canon and planned from the outset of the development process," said Dr. Mafeld. "At Toronto Western Hospital, we took this one step further by displaying visuals of nature scenes in the hallway outside of the procedure rooms aiming to create a more comforting environment before the patient enters the procedure rooms. Were these additions to the suite worth it? Absolutely!"

Staff wellbeing

In addition, Dr. Mafeld believes the

work environment has a much greater impact on staff wellbeing than many might initially realize.

"This was another key theme we wanted to keep as a guiding principle for the development process. The experiential benefits designed for the patient also function in parallel for enhanced staff satisfaction," he said. "The ambient lighting and music may seem like basic additions but can go a long way in improving the working environment"

"We thought of this project not as the development of a singular room, but rather in terms of how the entire space functions. For example, also creating a place to relax with natural light. Prioritizing staff wellness as a part of the project was absolutely crucial."

A reflection on Angio-CT technology

Dr. Mafeld states, "Angio-CT represents more than just the combination of

two technologies. Sometimes seen as merely two machines in one, Angio-CT is actually a singular vision of possibility. But it is a technology that is sometimes misunderstood." He's listened and heard these statements:

- Do I really need this technology – cone beam CT is good enough?
- Should we just buy two separate systems instead?
- Can we use the CT for diagnostic scans between cases?

Dr. Mafeld responds: "These perspectives miss the transformative potential this integrated system." The value of Angio-CT lies in its ability to advance interventional radiology by enabling visualization and breadth of procedures - some new, some old.

When cases become more complex than expected and the patient requires more than what conventional imaging offers, it is in these moments that having the right tools makes all the difference. This is what Angio-CT



"We tried to keep the patient experience at the forefront of this development process to ensure the patient journey was a key factor in decision-making aiming to reduce their stress and anxiety."

Dr. Sebastian Mafeld,
Vascular and Interventional Radiologist, UHN, Canada



Image courtesy of the Levchuk Agency

“Angio-CT represents more than just the combination of two technologies. Sometimes seen as merely two machines in one, Angio-CT is actually a singular vision of possibility.”

*Dr. Sebastian Mafeld,
Vascular and Interventional Radiologist, UHN, Canada*

represents. A technology that pushes boundaries and creates new possibilities for less invasive, more effective patient care.”

Dr. Mafeld adds: “Yes, you might not utilize its full capabilities 100% of the time, but its presence unlocks new treatment possibilities when needed. While operational metrics matter, we must balance efficiency with innovation. Angio-CT represents a commitment to advancing medical capabilities, not just optimizing existing ones.”

Specialist service and support

Canon Medical has an outstanding reputation for its customer support services. The organization has learned that people make the difference and customers appreciate the personalized services offered. Dr. Mafeld shared “The most valuable feature of any medical equipment might not be listed in the brochure or sales pitch, consider the company’s demonstrated commitment to keeping you operational when circumstances are at their worst.”

Once installed, the Canon applications team provided training to staff and collaborated to determine ideal workflows. The Canadian team at Canon provides *Application for Life*. This is to continuously train staff, ensure technology is being used to its full potential, and share ideas from other sites. UHN’s project team also worked with their Biomedical Engineering team to create special phantoms that allow for continual practice and preparation in working with this new technology.

Building with intention: The power of diverse perspectives

Installing the IR suites took a team of almost a hundred individuals. A consistent, core team was established. This team involved hospital staff members that work inside and outside the operating suite from facilities to IT, the construction organization, the vendor partner, and most importantly, the voice of the patient. The design phase involving a time-invested, conscientious team and patient advocacy were essential to ensure all needs were considered.

“It is important to be very intentional

about everyone who is asked to be part of the design and delivery of the IR suite. All involved are required to go above and beyond in their thinking to ensure the right perspectives are provided. It requires a level of commitment and expectations must be communicated early on,” said Dr. Mafeld.

Dr. Mafeld and the UHN IR team are proud to embrace Angio-CT technology as a platform for clinical excellence.

Ms. Tara Utley, Vascular Business Unit manager at Canon Medical Systems Canada, attributes the success of the

installations to the various stakeholders in the project, especially Dr. Mafeld, who works together with a passionate team at Toronto’s Joint Department of Medical Imaging (JDMI), which is a medical imaging umbrella organization within UHN.

“Dr. Mafeld’s passion and drive to think beyond the technology was critical for success, and his involvement from the beginning to the end of this project was instrumental,” Tara remarked. “Ensuring that the technology solutions were both patient centric and incorporated all staff considerations should be commended.” //

UHN is Canada’s largest research and teaching hospital in Toronto that provides comprehensive healthcare services. UHN has developed a long-term technical and research partnership with Canon Medical Systems that contributes significantly towards meeting its current medical imaging equipment requirements while ensuring that patients receive a high-quality experience and optimal care at an individual level. In addition, this partnership supports the development of solutions for the future.

Prioritizing the patient

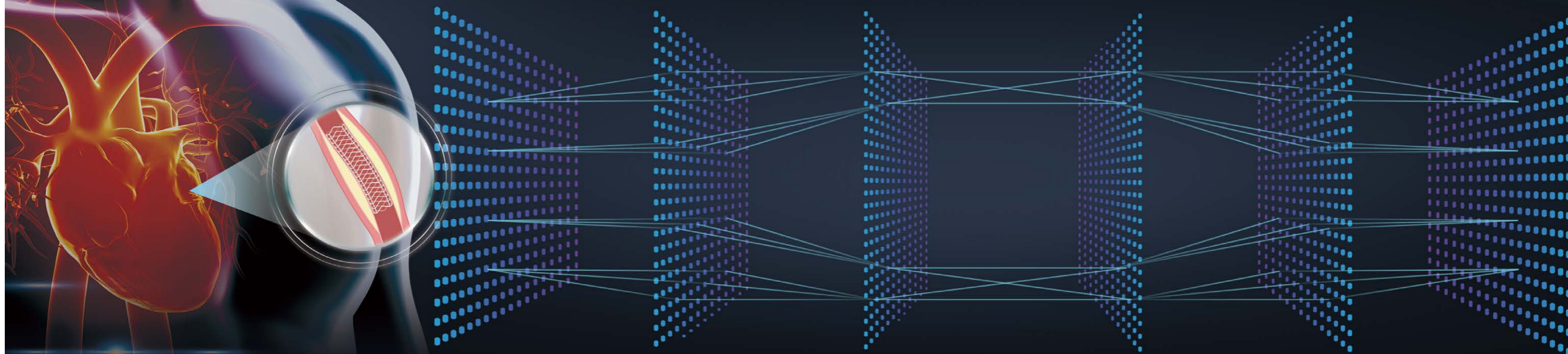
Scan the code or click [HERE](#) to view an interview video of Dr. Mafeld, his team, and Canadian team at Canon.



Video content courtesy of the Levchuk Agency

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.

Alphenix / Evolve Edition Angio Suite Achieves Lowest Doses to Enable Complex, Lengthy CTO-PCI

Successful treatment of Chronic Total Occlusion (CTO) is a clinical priority for interventional cardiologists. However, it is well known as difficult and complex procedure. Lately, higher success rates are being achieved thanks to advances in technology, along with consistent exchange of knowledge between clinicians on new innovations and techniques. Canon Medical Systems supports the CTO Club of Japan, which holds expert meetings, including live demonstrations of highly complex cases. Utilizing the advanced technology of the Alphenix / Evolve Edition, an angio system dedicated for interventional cardiology, the CTO Club has recently shown how the low doses achievable with the system enabled a particularly long and complicated case to be solved.

Chronic Total Occlusion (CTO) is a complete, or nearly complete, long-term (three months plus) blockage of one or more coronary arteries. The blockage is caused by a build-up of plaque within a coronary artery that compromises blood flow to the heart. CTOs are linked to some of the most serious cardiological conditions, such as increased risk of heart attacks, heart failure and death.

Continual learning

Specialized expert meetings, like those organized by the CTO Club of Japan, help deepen clinical knowledge,

promote detailed understanding of CTO devices, technologies and strategies, enable participants to learn and share techniques, and enhance collaboration in clinical practice and research into CTO, particularly in Percutaneous Coronary Intervention (PCI). The CTO Club of Japan held its 25th Seminar of Angioplasty of Chronic Total Occlusions on June 13-14 in Nagoya, Japan. It included specialized live demonstrations, the latest research findings, case presentations and educational sessions by experts from Japan and abroad.

In addition to bringing new innovative

solutions to interventional cardiologists, Canon Medical Systems provides support for academic forums that enhance learning and progression. The CTO Club meeting was co-sponsored by Canon Medical Systems, and featured a live demonstration of a highly complex CTO PCI with Canon's Alphenix / Evolve Edition, carried out by Dr. Yuji Oikawa, Interventional Cardiologist at The Cardiovascular Institute, Japan. Notably, the advanced dose reduction features of the Alphenix / Evolve Edition enabled Dr. Oikawa to successfully complete a difficult seven hours long interventional procedure.

“The procedure lasted about seven hours, and the fluoroscopic time was also very long – a total of 3.6 hours. However, the total dose was only 2.0 Gy, and the treatment was successfully completed.”

Dr. Yuji Oikawa,
Interventional Cardiologist at the Cardiovascular Institute, Japan



Lengthy procedures

CTO procedures often require extensive operational times due to their complexity, and, therefore, dose exposure tends to be higher compared to standard interventions. If the dose that the patient is exposed to becomes too high, it may become necessary to discontinue the procedure.

Dr. Oikawa had anticipated that the specific case would be difficult even before the live demonstration began. So, he consulted with application spe-

cialists from Canon and changed the system's setting to low-dose mode. He also decided to use Spot ROI, a useful application for reducing exposure dose frequently during the procedure.

“In this live demonstration, in addition to the dose reduction effect achieved by Alphenix's α Evolve Imaging, a variety of system settings, and Spot ROI, a useful application for PCI, were utilized to reduce the dose. By combining these features, we were able to provide safe, low-dose treatment for the patient.”

said Dr. Oikawa. “The procedure lasted about seven hours, and the fluoroscopic time was also very long – a total of 3.6 hours. However, the total dose was only 2.0 Gy, and the treatment was successfully completed.”

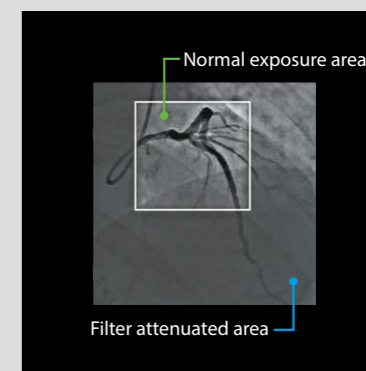
“I was discouraged many times, but every time I checked the total dose, I was determined to continue the procedure, and Alphenix supported me in performing it successfully,” he added.

“I was discouraged many times, but every time I checked the total dose, I was determined to continue the procedure, and Alphenix supported me in performing it successfully.”

Dr. Yuji Oikawa,
Interventional Cardiologist at the Cardiovascular Institute, Japan

Spot ROI:

Spot ROI is Canon's original dose-reduction function, which utilizes a filter with a rectangular hole. With this function, an area within which visibility must be ensured is irradiated with a standard dose of X-rays, while peripheral areas are irradiated with X-rays attenuated through the filter.

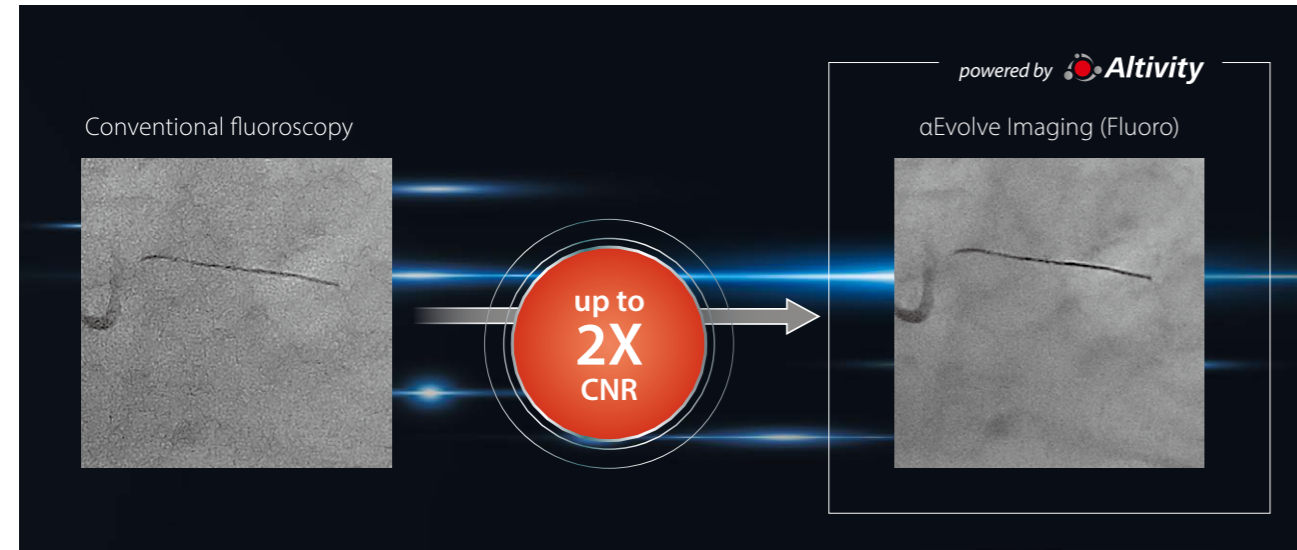
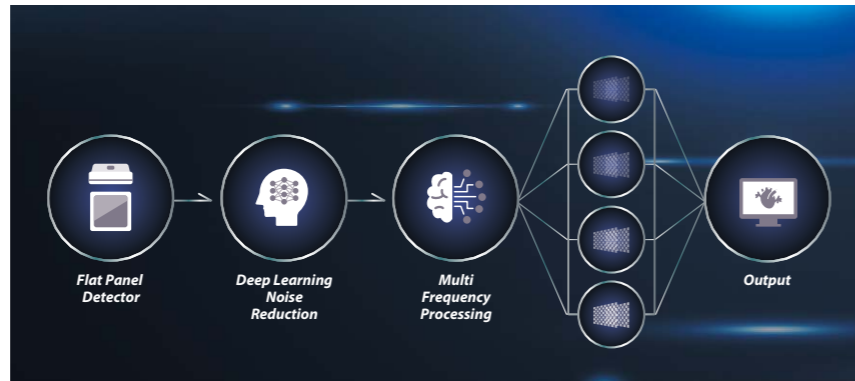


For Biplane (frontal), the fluoroscopic time was 91.2 minutes and dose was 783.35 mGy (as shown in the red frame on the left). For biplane (lateral), the fluoroscopic time was 104.7 minutes and dose was 941.19 mGy (as shown in the red frame on the right). With this fluoroscopic time, it would not be surprising if the total dose value was 3 Gy to 5 Gy, or even higher.



αEvolve Imaging

Canon's αEvolve Imaging utilizes Deep-Learning based noise reduction and multi-frequency processing to enable outstandingly clear fluoroscopic imaging, which can deliver a two times higher contrast-to-noise ratio compared to conventional image processing.



live demonstration at the 25th CTO Club, Japan

When the result of the procedure was shared with the audience of the live demonstration, physicians at the venue made positive comments, including: "It is amazing that such high image quality can be achieved at such a low dose," and "Canon is delivering the best performance in CTO treatments." //

Interventional Neuroradiology: Training and Technology That Tackles the Rise in Stroke in Türkiye

Interventional neuroradiology is a growing field in Türkiye. It is widely used in the treatment and management of acute stroke in particular. With a significant rise in stroke cases due to Türkiye's ageing population, more than 50 comprehensive stroke centers have been established across the country, served by a large number of expert interventional neuroradiologists who use advanced imaging capabilities.

Specialists based in Türkiye have played an important role in advancing Interventional Neuroradiology globally since its inception in the 1970s. Their work helped to establish its foundations. However, key to tackling the recent rise in stroke is building an even stronger pool of interventional neuroradiologists through training. Using the very latest medical imaging equipment, such as Canon's Alphenix, they are able to continue to save hundreds of lives daily. VISIONS Special spoke to experts in two teaching hospitals in Türkiye - Professor Yılmaz Önal, Interventional Neuroradiologist from the Fatih Sultan Mehmet Training and Research Hospital, in Istanbul, Türkiye, and Mustafa Özdemir, Academician at the Interventional Radiology Unit, Sakarya University, Sakarya, Türkiye - about their experiences with the Alphenix.

Comprehensive Stroke Center

The Fatih Sultan Mehmet Training and Research Hospital is a 300-bed facility in Istanbul, which has been used in training and research since 1983. It was recognized as a Turkish Ministry of Health approved stroke center in 2018. The stroke service operates 24/7, 365 days a year. The number of patients treated at the center has increased progressively since its establishment and in 2024, the Interventional Radiology Department at the center performed more than 400 thrombectomies.

"In our center, we not only provide thrombectomy treatment services to stroke patients, but we are also highly competent in the endovascular treatment of all neurovascular diseases," remarked Professor Önal. "Full treatment of these diseases is implemented through a team of many specialists and assistants."

"Alongside treatment, we are also a

training clinic that accepts fellows from many training and research hospitals in Türkiye and sometimes from abroad. They complete their training here which enables them to

provide treatment on their own when they return to their own centers," he added. "We are recognized nationally and globally."



Prof. Yılmaz Önal, Interventional Neuroradiologists from the Fatih Sultan Mehmet Training.

Quality systems with advanced features

Equipped with two Canon Alphenix systems, the Department has a mono-plane system which was acquired in 2015, and a biplane system, which was installed in 2018.

“The procedures we performed using the Canon monoplane system have been significantly enhanced in terms of volume and complication management since the introduction of the biplane device in 2018,” said Professor Önal. “With the monoplane, we could only receive treatments under general anesthesia twice a week. With the biplane, we can receive patients with general anesthesia every weekday, sometimes even at night, when necessary. This has led to a dramatic increase in the number of patients that we can treat. We have been treating neurovascular diseases under general anesthesia every day of the week since 2018.”

“Having two systems has significantly helped us,” he continued. “In 2018, we received the Comprehensive Stroke Center certificate having installed the two systems. Since then, we have been able to take an emergency thrombectomy patient to our monoplane device and complete their treatment while

simultaneously treating an elective patient using our biplane system. This is very beneficial both in terms of clinical results and workflow efficiency.”

Professor Önal has extensive experience with both the systems at the Department and shares his knowledge with others.

“As our center also has a training facility, we do not only handle cases here, but also support colleagues who require assistance in working on biplane devices,” he said. “One feature of the Alphenix systems that I am very pleased with is the fluoroscopic imaging quality. I am also very satisfied with the superior quality of 3D images and the intraoperative CT scans that we acquire to rule out a possible complication after post-op patient treatment while the patient is still on the table. This is not only my opinion - it is a common satisfaction shared by many physicians who come from abroad for our workshops and had not previously used Canon systems. After experiencing the Alphenix here, their feedback about the outstanding fluoroscopy quality has been consistently positive.”

Significant dose reduction

Spot Fluoro in the Alphenix Biplane system provides a significantly and highly

valued reduction in radiation exposure for Professor Önal and his team.

“For our complicated work, which requires prolonged fluoroscopy times, such as AVM, the radiation dose is seriously reduced for the patient and us. I think it is a crucial advantage,” he remarked. “We performed a study running collimation at the same time. And when comparing normal fluoro and Spot Fluoro, we could clearly see that Spot Fluoro reduced the dose significantly.”

“It is very important and very successful, especially in AVM/AVF treatments that require not short- but long-term scopy,” he reiterated.

Variable Isocenter

Another feature that Professor Önal is delighted with is the variable isocenter, which enhances imaging capabilities when obtaining tricky perspectives.

“When working with high caudal or cranial angulations in the frontal projection (up to 30-40 degrees), adjusting the lateral view typically requires significant table movement, which can disrupt the frontal image,” he explained. “To avoid such a situation, Canon’s angiographic systems have variable isocenter projection of the sys-

“One feature of the Alphenix systems that I am very pleased with is the fluoroscopic imaging quality. I am also very satisfied with the superior quality of 3D images.”

Prof. Yılmaz Önal,

Interventional Neuroradiologists, Fatih Sultan Mehmet Training, Türkiye



tem, and without moving the table at all to adjust the lateral image, you can bring the clear image to your screen on the lateral side by playing with the isocenter. I think this is a very important feature and it makes our job much easier. It is very successful, especially in aneurysm treatments with difficult working angles.”

Alpha CT imaging

Image quality is very valuable and important for the Interventional Neuroradiology Team because their work is within a closed system.

“In interventional radiology, we work in a closed system. We do not perform open surgery,” said Professor Önal. “Therefore, fluoroscopy quality is indispensable for us. Especially in patients

for whom we perform stent treatments. It is essential to ensure that the stent is clearly positioned in the vessel and that the apposition of the stent is good. We evaluate this after post processing using Alpha CT (cone beam CT). In Canon’s Alphenix, I generally have a very high chance of evaluating the apposition of the stent in images that we see unsubtracted with contrast injection in 2D images. This is possible because the fluoroscopy resolution of the device is quite good.”

Roadmap

Roadmap software is also very important for their work.

“Additionally, roadmap image quality is crucial for safe access to distal vessels during AVM treatments. Otherwise,

very serious complications, such as vessel rupture can occur,” explained Professor Önal. “In this context, the quality of fluoroscopy and roadmap quality of the Alphenix is quite high. Through Alpha CT, we have very clear information in evaluating stent apposition in post-processing applications. In this sense, I would like to say that the system’s quality helps us a lot in evaluating both the success of the treatment itself in navigation and possible post-treatment complications.”

Post-processing capabilities

It is important to the team that all images required from the patient are acquired in one scan to avoid the need to take the patient back into scanning to detect a possible minor complication.



Prof. Yılmaz Önal and his team



“The system’s quality helps us a lot in evaluating both the success of the treatment itself in navigation and possible post-treatment complications.”

*Prof. Yılmaz Önal,
Interventional Neuroradiologist, Fatih Sultan Mehmet Training, Türkiye*

“In that sense, I am especially satisfied with the CT quality of the Alphenix,” said Professor Önal. “Canon can offer many effective postprocessing capabilities. This is especially useful for work in a center like ours, in which intracranial stents are frequently required for use and where critical aneurysms are treated. We have to evaluate if the used materials could cause possible complications after treatment and

assess their apposition to understand possible stent deformations.”

Support is a phone call away

As well as the high quality of the Alphenix system, Professor Önal is delighted with the service and support provided by Canon.

“The fact that they are just a phone call away makes me feel very safe. As a

physician at the head of a busy clinic, for me it is very important to be able to reach support swiftly when I call,” he remarked. “Most of the times, we can solve a problem instantly. Even if engineers do not come themselves, they contribute to the solution of the problem many times by directing us from over the phone.”

Sakarya University Faculty of Medicine in Sakarya, Türkiye, was established in 2007 to provide education, research, and health services. It is considered to be among the top 20 universities in Türkiye. Dr. Mustafa Özdemir has worked as an Academician in the Interventional Radiology Unit at the University’s Department of Radiology for the last five years. The interventional radiology focus of the Faculty of Medicine is broader than stroke alone.

The Unit also has two Angio systems, including an Alphenix acquired recently.

“Before we started to use the Alphenix, our Unit had one angiography system and one C-arm fluoroscopy system,” explained Dr. Özdemir. “Our angiography was a monoplane system, and it lacked neuroradiology software for neuro-interventional procedures. We carried out our procedures using these two systems.”

Biplane system and neuro software

“We have been using the Alphenix system for nearly two years now,” he continued. “It’s most important features for us are its advanced imaging technology, integrated neuro software, and being a biplane system. Additionally, the software tools, such as Alpha CT and Mask Select (Roadmap), are frequently used in advanced interventional radiology. The system makes many of our procedures much easier. With this aspect, we enjoy and actively use the system with great interest.”

Changes to daily practice

Working with Canon angiography systems has changed the practices at the Unit in terms of workflow and outcomes of cases.

“It has brought many changes to our daily clinical practice,” said Dr. Özdemir. “We are exposed to significantly less radiation with a biplane system. Taking two images simultaneously, speeds up our workflow. The advanced processing methods like Alpha CT and Mask Select, enable us to perform our daily procedures more efficiently and effectively.”

“The system is highly reliable, especially in critical situations,” he emphasized. “In Neuro-Interventional cases and geniculate artery embolization, the Alphenix provides extremely sharp image quality and effective 3D software tools that make complex procedures much easier and more practical. We feel more secure and confident by using it, knowing that even if we face a

problem, we can easily overcome it.”

Dr. Özdemir recalls many examples of how the Alphenix has provided outstanding functionality.

“There are many striking cases that come to mind,” he said. “For instance, in a case where we placed an intracranial stent, we were initially unsure whether the stent was fully deployed and properly opposed to the vessel wall. By utilizing the Alpha CT feature of the device, we were able to confirm optimal deployment and vessel wall apposition, allowing us to complete the procedure with confidence.”

“In another case, we had difficulty locating a small selective branch feeding a tumor during a chemoembo-

“The Alphenix provides extremely sharp image quality and effective 3D software tools that make complex procedures much easier and more practical. We feel more secure and confident by using it, knowing that even if we face a problem, we can easily overcome it.”

*Dr. Mustafa Özdemir,
Academician at the Interventional Radiology Unit, Sakarya University, Sakarya, Türkiye*





Dr. Mustafa Özdemir and his team

lization procedure. After performing an Alpha CT scan, we discovered that the branch originated more proximally than we had expected, and this enabled us to proceed and complete the procedure successfully," he added.

Sharp images make procedures easier

Dr. Özdemir considers Alphenix to have a superior image quality. Even when working in very small anatomical areas, he has found that the sharpness of the images makes procedures significantly easier.

"The system's ease of use and modern software technologies are major advantages for us. Especially for neuro-interventional cases, both the 3D and Alpha CT features are minor features that provide great comfort and reliability during and after procedures," he remarked. "Additionally, it is necessary to mention the very large 58-inch LCD

monitor. It is a great advantage for us to be able to divide this 58-inch LCD monitor into segments as we wish, put the images that we want on the monitor and display different images live during the case. Most visitors are amazed by the image quality, which is sharp, clear, and detailed. They are also impressed by the customizable 58-inch monitor. The device's ability to quickly generate high-quality 3D images by using features such as Alpha CT continues to impress both our team and visiting doctors during training sessions."

Strong Trust

Service and support from Canon complete the picture.

"The application support and accessibility Canon provides are truly impressive," said Dr. Özdemir. "Whenever we need assistance, we have never had difficulty reaching a support staff

member. The close attention and prompt solutions are among the top reasons for why we have developed a strong trust in Canon."

A growing concern

Alongside the enhanced provision of experts in interventional neuroradiology in Türkiye and cutting-edge technology, like the Alpha CT, public awareness of stroke and the possibilities of diagnosis and treatment with Interventional equipment and techniques is rising. This could also be critical in early detection and intervention of stroke and other conditions. //

Enhancing Workflow and Integration with QMAPP

Creating new healthcare facilities is not just about constructing buildings and providing extra beds. With growing challenges, equipment solutions need to enhance efficiency and streamline workflows to ensure that new healthcare facilities provide added value in patient care and meet current and future demands. Tergooi MC in the Netherlands has recently adopted Fysicon's QMAPP® patient monitoring system in its new building, which has significantly improved the efficiency of Cardiac Interventions and data management within the hospital. VISIONS Special explored how this is working out.

About Tergooi

Tergooi MC is a leading regional hospital in the Netherlands, dedicated to providing high-quality, accessible healthcare. In 2023, the hospital completed a major transition, consolidating its facilities into a new, state-of-the-art building in Hilversum. This move has streamlined operations

and improved patient care, while also embracing sustainability through energy-efficient infrastructure and green initiatives. As a regional training hospital, Tergooi MC is committed to education, research, and continuous medical innovation. The hospital provides acute, intensive, and clinical care, with

a focus on ensuring the best possible outcomes for patients. Cardiology is one of its key specialties, with a dedicated cardiac catheterization laboratory (cath lab) that performs a high volume of coronary angiographies and percutaneous coronary interventions (PCIs) annually.



QMAPP is a compact hemodynamic system, a product of Fysicon which is a Canon group company.

Commitment to digital transformation

With its commitment to digital transformation and integrated healthcare, Tergooi MC actively enhances its workflows by implementing advanced medical technologies. This approach enables seamless collaboration across departments, ensuring that essential patient data is available when and where it is needed. One such innovation is the adoption of QMAPP, which has significantly improved the efficiency of cardiac interventions and data management within the hospital.

Onno van der Veen, Specialized

Cardiac Care Nurse and Functional Technical Manager for Cardiology, shares his experience working with the system and how it enhances the daily operations of the hospital's cardiology department.

Why did Tergooi choose this system?

At Tergooi, we needed a hemodynamic system that could provide accurate measurements and seamlessly integrate into our existing workflows while ensuring reliable access to essential patient data. Before choosing QMAPP, we explored different options and prioritized the ability of the system

to communicate effortlessly with our electronic patient record (Chipsoft HiX EPD), PACS, and worklists for various modalities. It was also important for us to work with a solution that is continuously updated and improved to meet evolving healthcare needs.

QMAPP stood out as the best solution for us due to its ease of integration, user-friendliness, and flexibility. It allows us to centralize all critical data into a single workflow, ensuring that our reports, ECGs, and procedural information are stored efficiently and remain accessible to all relevant departments.

“We needed seamless integration and reliable data access—QMAPP delivered.”

Onno van der Veen,
Tergooi MC, Netherlands

What is a defining feature of QMAPP that you use daily?

One of the most valuable features of QMAPP is its ability to generate a unified worklist across different rooms. This ensures that all team members have access to the same patient data,

regardless of their location, allowing for smoother collaboration and better decision-making during interventions. The ability to have all information available at the table is a significant improvement for our team. Additionally, QMAPP ensures that even

if the system experiences an issue, the background worklist remains active. This reliability gives us peace of mind, knowing that our workflow will not be interrupted.

“QMAPP’s unified worklist keeps our team in sync, ensuring better patient outcomes.”

Onno van der Veen,
Tergooi MC, Netherlands



Could you describe the workflow before using QMAPP?

Before implementing QMAPP, our team faced challenges with fragmented patient data. Reports, ECGs, and procedural information were stored separately, requiring multiple steps to retrieve and organize relevant information. This added complexity and inefficiency to our daily workflow. We also experienced difficulties with our previous system, as it lacked full integration with our other hospital systems. Reports were stored separately, which made it harder to access all necessary information in one place. With QMAPP, everything is now centralized, making our workflow far more streamlined and efficient.

What has been your experience with Fysicon’s support?

A major advantage of working with Fysicon is the direct and accessible support from their team. I always have dedicated points of contact, which ensure that any questions or issues are addressed promptly. This level of responsiveness is invaluable, especially compared to others where support can be slow or inconsistent.

Would you recommend QMAPP to other hospitals?

Absolutely. QMAPP has proven to be a stable, reliable, and user-friendly system that supports our workflow in the best way possible. It ensures that all necessary patient data is available at

the right moment, allowing us to focus on delivering the best possible care. Choosing QMAPP was the right decision for Tergooi, and we highly recommend it to any healthcare institution looking for a flexible, integrated, and efficient solution for their cardiology department.

QMAPP is available for integration with our Alphenix angiography system. With this integration, QMAPP functions will be available to operate from our tableside tablet, allowing for smoother workflow. //

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

“QMAPP centralizes patient data, streamlining workflows and improving cardiac interventions.”

Onno van der Veen,
Tergooi MC, Netherlands



Learn more about:

QMAPP:

Scan the code or click [HERE](#) for more information



Alphenix with QMAPP integration:

Scan the code or click [HERE](#) for more information



The team at Forth Valley Royal Hospital alongside Canon Medical Systems UK, Director of Sales CT/MR/XR/HIT, Alistair Howseman.

A First for Scotland at Forth Valley Hospital

The Alphenix Sky + will enable the hospital to deliver complex precision procedures by offering greater levels of accessibility to patient anatomy, superior image quality, and workflow optimisation.

To bring complex interventional procedures in-house and increase patient throughput, Forth Valley Royal Hospital has installed the Alphenix Sky +, making it the first hospital in Scotland to benefit from Canon's most advanced ceiling-mounted imaging system, placing it at the cutting edge of diagnostic innovation.

This will improve clinical workflow efficiencies by reducing the need for patient referral to alternative hospitals in Scotland, bringing healthcare closer to the community. In addition, patients with vascular and renal conditions, which previously required major surgery, can now undergo treatment through minimally invasive techniques.

Superior Imaging Quality

The Alphenix Sky + offers clinicians superior imaging quality and the 220° rotation needed to carry out complex precision procedures such as prostate artery embolization (PAE) for prostate

The Alphenix Sky + also enables the hospital to carry out examinations of the uterus for women experiencing fertility issues and treat uterine fibroids, reducing the need for more invasive procedures or surgery.

“Forth Valley Royal Hospital has installed the Alphenix Sky +, making it the first hospital in Scotland to benefit from Canon's most advanced ceiling-mounted imaging system.”



High-quality 3D images produced from the Alphenix Sky +.

Jennifer Gilchrist, Radiology Services Manager at NHS Forth Valley, commented, "Whilst our previous radiology imaging system served us well, technology has significantly advanced since its purchase 12 years ago. We needed new state-of-the-art equipment that would provide crystal clear, high-quality images to enable us to carry out a broader range of precision procedures in-house. As a hospital, we are keen to serve our patients as close to home as possible and are thrilled that we can now make this possible."

Integrated Unique Technology

Featuring a double C-arm feature with full rotation from either the right or left

side of the table, the Alphenix Sky + can capture images of the patient's body from all angles and enable lateral 3D acquisitions, creating a high-resolution 3D image from a 2D set of data.

This is vital for complex procedures and images, including inserting small metal coils into veins or arteries to cut off the blood supply to cancerous tumors and placing stents, which can then be expanded to help clear blockages and maintain blood flow. Increased clinical confidence through 3D images leads to better patient outcomes.

Combined with an integrated workstation, the Alphenix Sky + system

significantly reduces restrictions on examinations and procedures, aiding greater operator workflow and increasing overall productivity. It also offers a lower radiation dose than alternative scanners, a key consideration in diagnostic imaging, especially for patients requiring multiple scans during treatment.

The addition of a unique SPOT Fluoro, which helps improve workflow and visibility of guide wires and catheters, also works to reduce dose per procedure. The radiation field can be seamlessly adjusted independently, ensuring that the minimum area needed to perform the procedure is exposed, without needing to adjust the patient or system

"Thanks to the new equipment, we now have the imaging precision needed for the services we want to provide."

Jennifer Gilchrist, Radiology Services Manager at NHS Forth Valley, UK

position. Meanwhile, the use of the Dose Tracking System (DTS) within the Alphenix Sky + scanner allows the clinician to monitor the patient's skin dose in real-time, thus minimising the risk of radiation injury.

Increased Diagnostic Capacity

In addition to the Alphenix Sky + system, Forth Valley Royal Hospital has also installed Canon's Ultimax-i X-ray machine to further build diagnostic capacity and resilience within the hospital. The new machine, housed in the fluoroscopy room, enables high-quality images and videos to be captured using contrast dye. This can be used to examine patients experiencing difficulty chewing and swallowing food, which can often happen after a stroke. It can also be used to assess joints to determine if a patient would benefit from a hip or knee replacement and help with the precise positioning of stents to treat patients with a range of cancers, including bowel, stomach, gallbladder, and liver, as well as supporting a wide range of investigations carried out by the Endoscopy Department.

Imaging Precision

Jennifer Gilchrist added, "Thanks to the new equipment, we now have the imaging precision needed for the services we want to provide. Resilience is another key consideration. Our old imaging fluoroscopy room wasn't set up for interventional procedures, so being able to carry these out with the Ultimax-i, as a support to the Alphenix Sky +, is extremely exciting. Together the two systems offer a perfect solution as we know we'll always have a backup machine in place and, better still, we can offer interventional procedures to more than one patient at a time.

Replacing and installing the new systems back-to-back enabled us to keep patient services running effectively during the transition, and Canon ensured that the installation was completely seamless from start to finish. We could not have done this installation as successfully without the

"The Alphenix Sky + offers clinicians superior imaging quality and the 220° rotation needed to carry out complex precision procedures such as prostate artery embolization."



Alphenix Sky + installed at the Forth Valley Royal Hospital, Larbert, Scotland.

constant oversight from the experienced project manager and partners.

This is a long-term investment for the health board and hospital and, due to the relationship we have built, we know that if we require further assistance moving forward when it comes to upgrades, updates, and training, Canon will be able to support us."

Better Patient Outcomes

Philip Willcock, XR/VL Modality Manager at Canon Medical Systems UK, concludes, "We are pleased to have completed the first installation of the Alphenix Sky + in Scotland, along with the Ultimax-i X-ray system at the Forth Valley Royal

Hospital. The installation of both systems offers the hospital the ability to deliver more complex interventional procedures in-house, whilst increasing patient throughput and comfort by offering superior access to patient anatomy. Being able to capture high-quality scans of the patient's body from all angles is crucial to improving operator workflow and achieving increased productivity, clinical confidence, and better patient outcomes. We hope this is the first of many more installations in Scotland, and across the rest of the UK." //

This article is a reprint from the international VISIONS magazine #43, published by Canon Medical Systems Europe B.V.

Canon

CANON MEDICAL SYSTEMS CORPORATION

<https://global.medical.canon>

©Canon Medical Systems Corporation 2025. All rights reserved.
Design and specifications are subject to change without notice.
MOIVL0010EA 2025-11 CMSC/Printed in Japan

Canon Medical Systems Corporation meets internationally recognized standards for Quality Management System ISO 9001, ISO 13485. Canon Medical Systems Corporation meets the Environmental Management System standard ISO 14001.

QMAPP is a trademark of Fysicon B.V.

Disclaimer: Some features presented in this brochure may not be commercially available on all systems shown or may require the purchase of additional options. Please contact your local representative from Canon Medical Systems for details.

Disclaimer: Content on this article contains statements from an interview with the physician named in this article with respect to the results and performance that are subject to risk and uncertainties, and reflects his views and assumptions formed by available information. Many factors could cause the actual results and performance of Canon Medical to be materially different from any of the aforementioned.

Made For life



Read more customer testimonials from
Scan the codes or click each blue icons

visions SPECIAL

Interventional Cardiology



Interventional
Radiology/ Oncology



Interventional Neurology

