PHILIPS

Image Guided Therapy

Electrophysiology suite

Electrophysiology suite

Empower your EP suite

Defining the future
of Image Guided Therapy

Innovative solutions across the health continuum
We look beyond technology to the experiences of patients, providers and caregivers, unlocking insights to lead to meaningful innovations in care, from hospital to home and home to hospital, and across a range of procedures and ways to remotely monitor.

Transforming care, together
Look to our integrated solutions – packaged suites of systems, smart devices, software and services – that combine broad and deep clinical expertise, technology and services, actionable data, consultative new business models and partnerships. Working with you, we can transform how care is delivered and experienced, delivering upon the Quadruple Aim to support improved patient experience, better health outcomes, improved staff experience and lower cost of care.

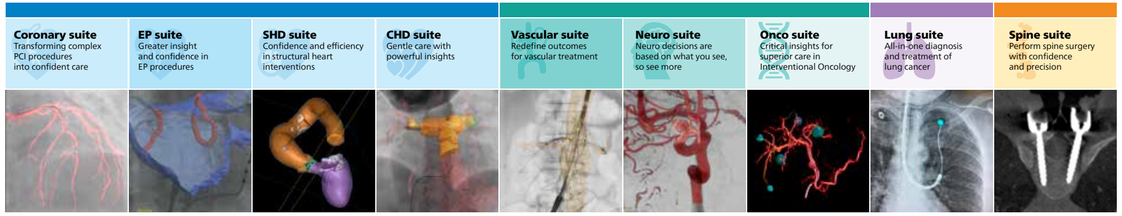
New procedures, smoother ways of working
Philips has played a pioneering role in image guided minimally invasive therapy for cardiovascular disease since the inception of the field back in the 1950s, thanks to our expertise in X-ray imaging systems. We aim to both improve existing procedures and facilitate new procedures so that more patients can benefit from image guided therapy. We also develop new business models to cater to new care settings, such as ambulatory surgery centers and office-based labs, and to drive improved lab performance. Today our clinical partners benefit from complete procedural solutions to treat a wide range of diseases – from cardiovascular disease to stroke, cancer and spine conditions.

Clinical demands are getting more specific, and so are we
During each interventional procedure you are focused on making the best decisions you can for your patient. Each patient and each disease has very specific challenges, complexities and needs. As the number of procedures and patients grows, you see the need for better image guidance and interventional devices to help make treatment and decision-making more effective. At the same time, you're looking to enhance workflows to improve efficiency. That's why we created our clinical suites, which are a flexible portfolio of integrated technologies, devices and services for a broad range of interventional procedures.

Each of our clinical suites offers specific Image Guided Therapy solutions to provide more choice and flexibility for exceptional care. You can be confident your patient is receiving the best possible care with the latest Philips technology. Together we are shaping and creating the future of Image Guided Therapy.

Introducing clinical suites

Helping to bring across our comprehensive clinical propositions



Electrophysiology suite

See clearly, treat optimally

Enhance care while streamlining workflow
Despite advances in imaging, electrophysiologists still encounter challenges when performing interventions, including cardiac ablations, safe and efficient lead management extractions and LAA occlusion interventions. Challenges also remain in remote cardiac monitoring. Our teams are dedicated to your success, providing expert training and support that help you save lives and vastly improve the quality of life for your patients. Look to Philips for advances that keep you ahead in the electrophysiology (EP) lab.

Now you can save valuable steps throughout procedures with lab integration by controlling all compatible applications in one compact, customizable workplace and streamlining workflow in the EP lab and beyond. Philips Electrophysiology suite is designed to help you improve care for the growing population of patients who require EP procedures. We strive to provide superior imaging with the lowest possible radiation dose, offer a more efficient workflow and optimize the quality of care through a range of innovative solutions across a variety of procedures. The Azurion Image Guided Therapy platform is the core of the EP suite, allowing your clinical teams to benefit from a seamless integration of multimodality, mapping, robotics and IT applications. It provides you with excellent ease of use, allowing you to streamline your workflow for increased lab efficiency and offering the simplicity of tableside control. Our advanced 3D imaging gives you insights into complex anatomies and helps you to navigate catheters with confidence.

Access your applications tableside
Control specialty EP diagnostic and therapy tools tableside, such as your EP recording system or pre-operative CT, without breaking sterility, allowing for effective treatment in a wide variety of routine and complex EP interventions. Tableside control saves you from having to go to the control room to access applications. Data entry repetition is reduced because patient information is automatically transferred to connected applications, so you enter patient information only once. During procedures, smart solutions such as ClarityIQ and Zero Dose Positioning provide efficient dose management. This responds to a growing demand for enhanced patient and staff safety by providing low-dose X-ray that does not compromise image quality.

One workspace to put you in control

Azurion touchscreen module
Imaging parameters can be quickly and easily adjusted at the tableside without leaving the sterile field. You can collimate with a fingertip and zoom X-ray and roadmap images to support easy navigation. A large pointer is visible in the exam and control rooms for clear communication. Additional touchscreens can be also placed on a pedestal or in the control room.

Azurion control module
The control module delivers an intuitive layout with one-button-one-function operation to improve the user learning curve. An advanced design delivers a compact configuration to reduce the footprint with a protection bar that prevents unintended system activation. The module can be placed at tableside, on a pedestal or in the control room.

FlexVision Pro
The large LCD screen allows you to display multiple high-definition images in a variety of layouts – each tailored for your specific procedure. FlexVision Pro is an advanced viewing concept that gives you full flexibility and control over your viewing environment from tableside.

FlexSpot
The Azurion FlexSpot* is a 27" integrated user-centric workspace that gives you seamless access to all applications, up to four per monitor, to significantly reduce clutter and simplify workflow. Team members can perform different tasks separately, without interrupting each other, to reduce gaps between cases.

Compact geometry design
Free positioning of the gantry for EP procedures and 105 cm C-arm depth for groin access

12" detector
High-resolution image over a large field of view to visualize relevant cardiac anatomy in a single projection

FlexVision Pro
Visualize EP mapping and EP Navigator with full control

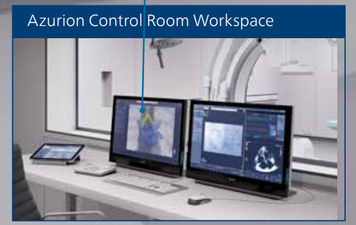
Hemodynamic monitoring
Interventional Hemodynamic system with X3 brings advanced hemo measurements to the cath lab and is integrated with the market-leading IntelliVue X3 patient monitor

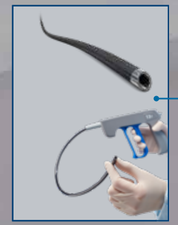
ClarityIQ
ClarityIQ is clinically proven to deliver significantly lower dose – based on 37 multiple peer-reviewed clinical studies with over 19,000 patients.[1]

FlexSpot
Offers a compact, clutter-free, user-centric environment

Touchscreen module*
Full system, 2D/3D imaging control at tableside

Azurion Control Room Workspace





Lead management and extraction
Philips offers both mechanical and laser devices to help facilitate a safe and seamless extraction for the patient with CIED infection

EP Rack
"EP Lab on one movable rack and removes cable clutter through a cable conduit. This provides a much "cleaner" organized look for the busy EP Lab."

* Pro version also available

Azurion Control Room Workspace

Gives you control when and where you need it

Control room clutter can be a nuisance in EP labs
With the Azurion Control Room Workspace you can enjoy an efficient, clutter-free environment. This fully integrated solution gives you seamless access to all connected applications from Philips and other vendors on one customizable and user-centric workplace to help save time and space.

In one overview you can access the patient history and timeline with IntelliSpace Cardiovascular, control and review the EP recording system, the EP mapping system during an ablation procedure, perform advanced hemodynamic measurements with the Philips Hemo system in LAA occlusion or lead management, or view SmartFusion images from EchoNavigator. To simplify workflow elements, the customizable workspace can be placed in the control room or exam room.

With the Azurion Control Room Workspace, access to the applications is simple. An option offers six 27" monitors for seamless access and control of up to 20 external video sources in full HD.

Key benefits

- Tailored presets per user, procedure or department
- Access up to 20 external video sources
- Control multiple applications in 2 monitors with one keyboard and mouse
- Connects and integrates third-party applications
- Integrated EP mapping and EP recording systems
- Allows users to re-size, drag and drop items "on the fly"

IntelliSpace Cardiovascular

See the big picture with this multimodality image and information management solution

Informed decisions start with access to the information that matters
IntelliSpace Cardiovascular combines deep clinical expertise with technological innovation to securely connect patients, care teams and data across the entire cardiovascular care continuum Azurion allows you to view patient data from IntelliSpace Portal in Exam Room and Control room (i.e. on the FlexSpot). However, it does not mean that it provides single point of access anytime and virtually anywhere.

Cardiovascular care continuum
Each and every one of your patients has a cardiac history of symptoms, tests, diagnoses, and treatments that makes that patient different from any other. IntelliSpace Cardiovascular is designed specifically with you in mind to help streamline clinical workflow and improve operational performance across your entire cardiovascular service line. At the heart of IntelliSpace Cardiovascular is the Workspace, which provides access to relevant cardiovascular images and information anytime, virtually anywhere*.

Key benefits

- Allows you to view and control patient data in the exam room on IntelliSpace Cardiovascular with Azurion FlexVision Pro without having to break sterility
- Provides control of IntelliSpace Cardiovascular from the Azurion Control Room Workspace
- Offers automatic in-context patient launch from Azurion to IntelliSpace Cardiovascular (as of 5.1)

Philips Hemo system with IntelliVueX3

Access advanced hemodynamic measurements in the lab

Continuous patient monitoring
Improving productivity and outcomes is vital for healthcare facilities to meet the growing demand for cath lab procedures. To further simplify cath lab workflow, Philips brings advanced hemodynamic measurements to the interventional lab. By connecting Philips IntelliVue X3 patient monitor in the cath lab with the Philips Hemo system, you can continuously monitor a patient. There is no need to change cables when transferring a patient from and to the cath-lab, minimizing disruption and giving you more time to focus on your patient.

Streamline reporting workflows
Xper Information Management (XperIM) is designed to enable more efficient cath lab workflows with hemo monitoring and data management. It streamlines workflows in physician reporting, billing, registry reporting and inventory management. Xper IM has a broad range of interfaces, orchestrating disparate patient data across the care continuum to support informed decision-making.

Key benefits

- No need to change cables to continuously monitor your patient, and can be confidently used by all staff members with minimal training
- Facilitates improved communication in the interventional lab by visualizing hemodynamic analyses in the exam room, and offers automated data collection and customized charting workflows
- Integration with the Azurion / Allura touchscreen module

* It is the user's responsibility to ensure that Philips network performance requirements for IntelliSpace Cardiovascular are met.

EP Navigator

Clear insight into cardiac anatomy

The AF population is growing
The global burden of cardiac arrhythmias is increasing. Patients with atrial fibrillation (AF), in particular, face an increased risk for stroke, dementia or heart failure.
The number of affected patients is expected to double in the next 40 years.[2] EP suite offers solutions to address this growing AF patient population. It can seamlessly integrate all of your preferred EP equipment to create an electrophysiology lab solution that fits your requested clinical and financial requirements.

Delivering clinical value to you
Despite advances in imaging, electrophysiologists still encounter challenges when performing interventions, including cardiac ablation and CRM/CRT implants.
Long procedure times make it crucial to reduce radiation exposure for patients and staff. Additionally, electrophysiologists and staff are managing many different technologies and systems during an ablation procedure, making efficient workflows challenging. Many of our Image Guided Therapy solutions are available in fixed cath lab environments and are designed to address key unmet needs in EP procedures today. ClarityIQ provides high-quality imaging, delivering excellent visibility at low X-ray dose levels for patients of all sizes. Multiple clinical studies with more than 19,000 patients have been published on ClarityIQ[1] technology. DoseAware real-time staff dose monitoring tools empower your staff to take control, protecting their health and wellbeing. We aim to remove barriers and deliver clinical value where it is needed most, to make EP procedures safer, more efficient and more reproducible.

Faciliates intuitive 3D catheter image guidance during AF ablation
EP Navigator provides detailed 3D anatomy, which can be overlaid onto live fluoroscopy.

Fast and simple workflow means that your 3D volume is now automatically segmented to show the left atrium (LA) and trachea (and other heart structures) to enable the registration without using additional contrast.

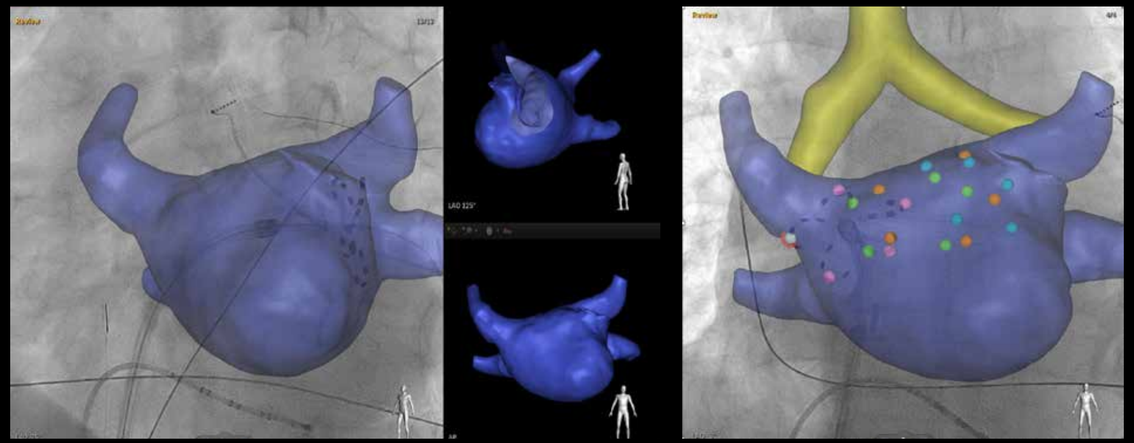
EP Navigator uses rotational scans for automatic registration. Obtain a quick reference point by viewing the rotational scan in various anatomic planes. Easily view and measure dimensions of the pulmonary veins (PV) and left atrium.

EP Navigator features Endoview, which allows you to look inside 3D structures to view the posterior side of the atrial wall, the ostia of the PVs, the ridge and other cardiac features. Point Tagging allows you to easily to mark ablation points and can be used with commonly available ablation catheters in the field.

Integration with a variety of mapping systems is a key feature of EP Navigator. The inclusion of exported 3D anatomy in the mapping environment enhances orientation and has the potential to reduce procedure time and X-ray exposure.

Key benefits

- Fast and simple workflow
- Integration and compatibility with major EP technologies
- Image fusion with mapping for enhanced dose management with a full 360° view of the heart



33.5 million people worldwide suffer from AF[3]

People older than **40 years** have a 1 in 4 risk of developing AF in their lifetime[4]

People with AF are nearly **5 times** more likely to suffer a stroke than people without AF[5]

EchoNavigator on EPIQ CVxi

Unparalleled visualization of anatomy and devices

Efficiency for LAA occlusion
Philips EPIQ CVxi delivers the exceptional image quality you expect in a premium ultrasound system, along with efficiencies in procedure guidance for left atrial appendage occlusion (LAAO), driven by dedicated interventional tools and a cardiology-focused interface to assess the LAA quickly, easily and intuitively for LAAO interventions.

Fuse live TEE and fluoro in real time with EchnoNavigator
Advanced automation delivers anatomical recognition, protocols for automatic functionality and proven quantification to help make exams easy to perform. EchoNavigator and Epiq CVxi fuse live TEE and live fluoroscopy images in real time. This allows you to intuitively and quickly guide your device in the 3D space. TEE transducer position and orientation are automatically tracked in the Azurion system, allowing the echo and X-ray image to move in sync when the C-arm is repositioned.

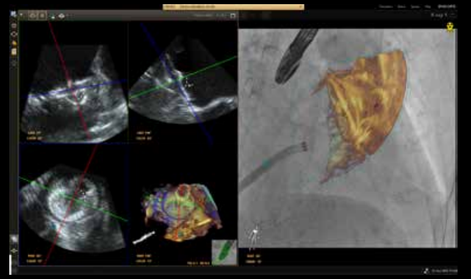
Key benefits

- Take a fast, reproducible approach to visualizing the morphology of LAA and automatically measuring the ostium using ultrasound alone
- Using the 3D Auto LAA feature can reduce the time of measurements by 70% on average compared with measuring the LAA features manually[6]
- **Live-on-live fusion of both modalities including 2D, 3D and color flow**
- **Seamless control of fusion imaging, automatic setting of MPR planes based on 3D heart models, and transseptal area visualization – thanks to the intuitive touchscreen on EPIQ CVxi**

Refining intra-procedural echo guidance with EchoNavigator
EchoNavigator is an alternate approach to LAA occlusion that elevates confidence and boosts efficiency. The latest release of EchoNavigator (4.0) builds on almost a decade of innovation in fusion technology. It assists heart teams with intuitive image guidance during procedures where both real-time X-ray and echo imaging are fused together, and allows clinicians to benefit from automated anatomical insights.

Key benefits

- Automatic continuous alignment of ultrasound with C-arm orientations simplifies image interpretation and facilitates communication
- Control of fusion image from ultrasound system or tableside provides workflow flexiblity
- EchoNavigator enhances confidence in device manipulation and in understanding anatomical structures. It also improves efficiency through the automation of imaging views and fusion.



Released LAA device with real-time 3D echo fusion and transseptal marker.

Advancing device to LAA with real-time echo fusion.

3D dynamic heart model with LAA orifice.

Lead management devices

Manage every lead

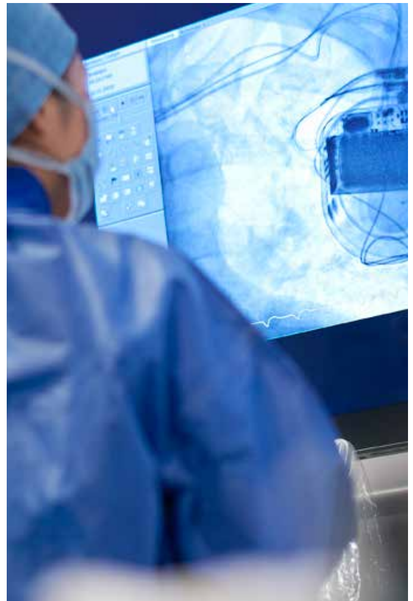
Effective lead management
Philips offers a portfolio of lead management devices to assist clinicians with lead extraction procedures for patients who have a CIED infection. This offers the opportunity for physicians and patients to manage every lead safely, responsibly and predictably.

Did you know?
- More than 8 of 10 patients with devices are not treated according to Class 1 guidelines for CIED infection[7]
- Treatments with antibiotics alone have a 50%-100% relapse rate[8,9]

The value of timely lead extraction
Lead extraction for CIED infection can be a life-saving procedure. Yet, over 65% of CIED infection patients are treated inappropriately.[11] Any patient with a CIED and an infection should be referred quickly for a lead extraction consultation, as data shows delaying lead extraction can lead to mortality.[12,13] Philips is dedicated to helping physicians and patients manage every lead with the Philips Lead Management portfolio of safe and effective tools.

Key benefits

- Lead extraction demonstrates 97.7% clinical success rate[10]
- All leading cardiac societies including the Heart Rhythm Society (HRS) and American Heart Association (AHA) agree that safe, cost-effective and life-saving treatment for CIED infection is complete removal of the device, including leads
- TightRail mechanical sheaths – Dilating blade remains shielded until activated, and is designed to effectively dilate commonly encountered fibrosed and calcified lesions a rotation of 574 degrees with each full trigger activation
- GlideLight laser sheaths allows physicians to use up to 55% less advancement force[14]



GlideLight laser sheath*
- Versatility – No two lead-removal procedures are the same: each binding site is unique, lead designs vary, and every patient's anatomy is different
- Efficiency – Stalled progression during lead removal procedures can lengthen the time they take to complete; GlideLight laser sheath may enable smoother and more consistent progression
- Control – Using a high degree of mechanical force when removing leads can compromise lead integrity; GlideLight laser sheath provides critical control when progressing through binding sites

Safely and efficiently removing leads depends on tools that give you versatility and control. GlideLight laser sheath offers the unprecedented ability to customize the laser's repetition[14] rate throughout a procedure. At 80 Hz, the GlideLight laser sheath requires up to 55% less advancement force,[14] and advances up to 62% more efficiently through tough binding sites than laser sheath (SLS II).[15]

LDD (lead locking device)
This device is inserted into the lumen of the lead to provide total control by locking along the entire length.
- Allows robust support during sheath advancements
- 5 sizes: LLD 1, 2,3, EZ, and E (difference in locking diameter and length to provide versatility
- Offers stability, flexibility, visibility

TightRail mechanical rotating dilator sheath
With the TightRail mechanical rotating dilator sheath, flexibility meets unparalleled control. The tool's flexible shaft helps physicians remain coaxial to the lead while maintaining forward progression through tortuous vasculature. The dilating blade remains shielded until activated, putting physicians in control and allowing counter-traction at the targeted lead's distal tip.

Nexcimer laser system
This laser system for coronary and peripheral atherectomy and lead management photoablates a wide spectrum of morphologies. Philips laser catheters are indicated in many vessel types, and this is the only laser system available for lead removal. Powered by a common 100-240V electrical outlet, the system warms up in less than 30 seconds for easy and fast setup.

Bridge occlusion balloon
A tear in the superior vena cava (SVC) during a lead extraction procedure is rare, occurring in just 0.5% of cases.[16] But when a tear does occur, the Bridge occlusion balloon can be quickly deployed to stop blood loss and allow time for transition to surgical repair.[17]

* Indications for use: The GlideLight laser sheath is intended for use as an adjunct to conventional lead extraction tools in patients suitable for transvenous removal of chronically implanted pacing or defibrillator leads constructed with silicone or polyurethane outer insulation. Contraindications: Use of the laser sheath is contraindicated: When emergency thoracotomy with cardiopulmonary bypass cannot be performed immediately in the event of a life- threatening complication; When fluoroscopy is not available; In patients in whom superior venous approach cannot be used; When the proximal end of the pacing lead is not accessible to the operator; When the lead will not fit into the inner lumen of the laser * Indications for use: The GlideLight laser sheath is intended for use as an adjunct to conventional lead extraction tools in patients suitable for transvenous removal of chronically implanted pacing or defibrillator leads constructed with silicone or polyurethane outer insulation. Contraindications: Use of the laser sheath is contraindicated: When emergency thoracotomy with cardiopulmonary bypass cannot be performed immediately in the event of a life- threatening complication; When fluoroscopy is not available; In patients in whom superior venous approach cannot be used; When the proximal end of the pacing lead is not accessible to the operator; When the lead will not fit into the inner lumen of the laser sheath.
Potential adverse events: The following adverse events or conditions may also occur during lead extraction with the laser sheath, but were not observed during the clinical study (listed in alphabetical order): bacteremia, low cardiac output, migration of lead fragments, migration of vegetation, myocardial avulsion/perforation, premature ventricular contractions, pulmonary embolism, stroke, venous avulsion/perforation, ventricular tachycardia.

Zenition Mobile C-arm

Unlimited potential at your fingertips

This harmonized range of systems is designed to not only provide superb image quality but also reduce operating costs, simplify use, and streamline fleet management. It offers future–fit capabilities to ensure that your C-arm remains clinically relevant at predictable costs. Zenition's Unify Workflow provides intuitive guidance for improved communication and time-savings for easy positioning.

Key benefits

- Cardiac imaging extension with dedicated imaging presets for electrophysiology, pacemaker, coronary and TAVI procedures
- Up to 30 frames per second image acquisition for variety of cardiac procedures
- FluoCarto fluoroscopy mode for EP studies and radiofrequency ablation procedures

Cardiac ambulatory monitoring solutions

Extend diagnostic cardiac insights beyond the lab

Philips offers a broad portfolio of remote cardiac ambulatory services to monitor and diagnose arrhythmias in patients beyond hospital walls. Actionable reports provide insights that accelerate clinical decisions and streamline workflows, helping to smooth transitions of care and deliver patient-centered heart care everywhere.

Transform cardiac care pathways
Philips transforms cardiac care pathways by bridging the walls of the hospital and specialist office, to the patient's home, extending clinical oversight and diagnostic capabilities pre- and post-procedure or cardiac event, improving patient outcomes and reducing total cost of care.

Extended Holter – ePatch
ePatch is a patch-based Holter solution that provides up to 14 days of continuous recording that is simple, actionable and efficient. Powered by Philips medical-grade AI software, ePatch is designed to deliver comprehensive, actionable reports quickly based on the prescribed study time.

Key benefits

- Comfortable to wear for up to 14 day of wear time[18] — patients can shower, sleep, or exercise
- Simple and easy for staff and patients, with a ready-to-use kit that requires no charging during the monitoring period
- Easy-to-read report with actionable insights for a fast and accurate diagnosis[19]

Mobile Cardiac Telemetry – MCOT*
Patients with clinically actionable arrhythmias can benefit from up to 30 days[18] of telemetry service with MCOT's near real-time analysis with built-in SmartDetectAI. Timely delivery of urgent and emergent notifications with MCOT can help reduce the time to diagnosis and accelerate treatment plans for patients with clinically actionable arrhythmias.

*MCOT is currently only available in the U.S. market.

Key benefits

- Superior detection and high diagnostic yield expedite patient treatment decision through with real-time arrhythmia analysis with rate, rhythm, QRS morphology and AF using p-wave analysis— powered by SmartDetectAI
- Robust insights delivered through high-quality actionable reports daily, end of service and urgent or emergent reports enable confident care decisions
- Simple and easy for practices and patients with multiple wear options and home delivery of kits

Procedures	Azurion	Zenition	Laser and mechanical extraction	CVxi and EchoNavigator	Hemo system with IntelliVue X3
Ablation	●				
Rhythm management	●	●			●
LAAO	●			●	●
Lead extraction	●	●	●		●

Technology Maximizer

Maximize imaging investments

To keep your Image Guided Therapy suite state-of-the-art with regards to cybersecurity, clinical and operational advancements, subscribe to IGT Technology Maximizer - Plus, Pro or Premium offer – for a standard duration of 4 years at point of sale.

Technology Maximizer secures all of your eligible Philips imaging equipment with the same technology release level, reducing maintenance complexity and simplifying lifecycle management across hospital departments. Maintain peace of mind with imaging equipment that is always up to date, and enhance patient care knowing you will always be first to take advantage of technology innovations.

Structured upgrades delivered upon release include:		**Technology Maximizer**			
	Maintenance Contract	Essential	Plus	Pro	Premium
Mandatory safety, security and software updates to fix system bugs	✓	✓	✓	✓	✓
Core software upgrade, including: Operating system upgrade, latest cybersecurity patches, licensed system software features and workflow enhancements	–	✓	✓	✓	✓
Training for upgraded and new software/workflow functionality	–	✓	✓	✓	✓
Computer hardware replacement to support software upgrade	–	As needed	✓	✓	✓
Upgrades to existing licensed clinical software (if available)	–	As needed	✓	✓	✓
Advanced training for new clinical features and/or applications	–	–	–	✓	✓
New licensed software applications in a selected clinical domain	–	–	–	✓	✓
New licensed software applications across clinical domains in scope	–	–	–	–	✓

Similar offerings available for UltraSound and EchoNavigator.

1. https://www.philips.com.au/healthcare/resources/landing/azurion/articles/clarityiq
2. Wijesurendra RS, Casadei B. Mechanisms of atrial fibrillation. Heart. 2019 Dec;105(24):1860-1867. doi: 10.1136/heartjnl-2018-314267. Epub 2019 Aug 23. PMID: 31444267.
3. Lippi, G., Sanchís-Gomar, F., & Cervellin, G. (2020). Global epidemiology of atrial fibrillation: An increasing epidemic and public health challenge. International Journal of Stroke, 16(2), 217–221. https://doi.org/10.1177/1747493019897870
4. Lloyd-Jones D, Wang T, Leip E, et al. The Framingham Heart Study: lifetime risk for development of atrial fibrillation. Circulation. 2004;110:1042–1046
5. https://www.cdc.gov/heartdisease/atrial_fibrillation.htm
6. VMQ 7.0 Claims Evidence Report Document. "Results based on internal comparison between 3D Auto LAA and 3DQ on a set of 15 3D LAA datasets of randomized subjects."
7. Lakkireddy D, Segar D, Sood A, et al. Early lead extraction for infected implanted cardiac electronic devices. J Am Coll Cardiol 2023;81:1283–1295.
8. del Rio A, Anguera I, Miro JM, et al. Surgical treatment of pacemaker and defibrillator lead endocarditis: the impact of electrode lead extraction on outcome. Chest 2003;124:1451–9.
9. Chua, JD, et al. (2000). Diagnosis and management of infections involving implantable electrophysiologic cardiac devices. Annals of Internal Medicine, 133(8): 604-608.
10. Wazni O, et. al. Lead extraction in the contemporary setting: The LExICon study: a multicenter observational retrospective study of consecutive laser lead extractions. J Am Coll Cardiol.2010;55:579-586
11. Sohail, M Rizwan, et al. Incidence, treatment intensity, and incremental annual expenditures for patients experiencing a cardiac implantable electronic device infection: evidence from a large US payer database 1-year post implantation. Circ Arrhythm Electrophysiol. 2016; 9(8).
12. Sohail MR, et al. Management and outcome of permanent and implantable cardioverter defibrillator infections. J Am Coll Cardiol. 2007;49:1851–1859.
13. Le KY, Sohail MR, Friedman PA, et al. Impact of timing of device removal on mortality in patients with cardiovascular implantable electrophysiologic device infections. Heart Rhythm 2011;8:1678 – 85.
14. Comparison of average peak push forces required to advance laser sheath at 40Hz vs. 80Hz pulse repetition rate through simulated fibrosis material at an advancement rate of 1.0 mm/second. D015722, Data on file at Philips.
15. Comparison of ablation force vs. advancement rate of laser sheath 40Hz vs. 80Hz by use of the data collected in D015786, Data on file at Philips.
16. Carillo RG, Tsang DC, Azarrafiy R, Boyle TA. Multi-year evaluation of compliant endovascular balloon in treating superior vena cava tears during transvenous lead extraction. EHRA late breaking trial. March 19, 2018.
17. Document on file, D026197. In an animal model with SVC tears up to 3.5 cm, with 2 pacing leads and 1 ICD lead.
18. Patients will need to replace the patch on day 5 of wear or sooner, as required.
19. Reference: Li, J. (2016) Deep Neural networks improve atrial fibrillation detection in Holter: first results. European Journal of Preventive Cardiology. 22 (2s), 41.

4522 991 84291 * AUG 2024

How to reach us
Please visit www.philips.com
healthcare@philips.com