Transforming complex PCI procedures into confident care
A unique cardiovascular offering across the entire care continuum

So what is PCI suite and how can it change the way you treat?

The world of Interventional Cardiology is evolving rapidly. What worked for you yesterday may not be right for you today. New technologies and devices are continually adding complexities to your already complex procedures.

All the while you have to make sure you’re providing the most advanced treatment options available with the least amount of contrast and radiation.

Enter the Philips PCI suite, part of our overall Clinical Suites solutions. It combines innovative and proven legacy technologies from Philips Volcano across the entire care continuum to support PCI procedures and intra coronary device techniques.

Our PCI suite offers you cutting-edge innovations including various iFR/FFR co-registration technologies moving physiology from justification to physiology guidance. And real-time navigation guidance aids you in placing devices in the right position while providing confident confirmation of results. Not to mention, in cardiac cine, ClarityIQ technology reduces patient dose by 53% while maintaining equivalent image quality, compared to a system without ClarityIQ.

Research shows that advances in imaging technologies and techniques have increased success rates and safety when performing complex procedures, with the potential to be cost effective.

CTO procedures: Angiographic success rates and major procedural complication rates

![Graph showing angiographic success rates and major procedural complication rates over time.](image-url)
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| Dedicated PCI Applications                      |        |       | Dynamic Coronary Roadmap | iFR Roadmap | StentBoost Live |
| CT TrueView                                     |        |       |                        |            |               |
| CardiacSwing / 3DCA                             |        |       |                        |            |               |

| Philips Volcano Devices and Applications        |        |       | SyncVision IVUS Co-registration | Verrata Pressure Guide Wire | SyncVision IVUS Co-registration | Eagle Eye IVUS Catheter |
| SyncVision iFR Co-registration                  |        |       |                                |                        |                                |                           |
| Verrata Pressure Guide Wire                    |        |       |                                |                        |                                |                           |

| Integrated Tools                                |        |       | Xper IM / XperFlex Cardio     |         | DoseWise Portal |
| IntelliSpace Cardiovascular                     |        |       |                                |            |               |
| Ultrasound CX50                                 |        |       |                                |            |               |
| Integrated CORE                                 |        |       |                                |            |               |

| Other Cardiology Solutions                      |        |       |                                |            |               |
| HeartNavigator                                  |        |       |                                |            |               |
| Ultrasound EPIQ (TEE)                           |        |       |                                |            |               |
| EchoNavigator                                   |        |       |                                |            |               |
| EP Navigator                                    |        |       |                                |            |               |
PCI suite powered by Azurion
Performance and superior care become one

The bigger field size* on 12" detector is perfect for navigating towards the coronaries and for left ventricle imaging. You can also see bigger parts of the aorta with this detector size.

Dr. Joachim Sternvall, TAYS Heart Hospital, Helsinki, Finland

Poly-G arm
State of the art, geometry designed for PCI procedures

12" detector
High-resolution imaging over a large field of view with full projection flexibility, particularly beneficial in cardiac interventions

Instant Parallel Working
Perform tasks independently during fluoroscopy or exposure

* compared to 10" detector
Volcano Integration
Store and export IVUS, iFR, SyncVision images in the same patient file as the X-ray data.

Xper Flex Cardio
Enhance cardiovascular assessment through live patient monitoring

ClarityIQ technology
In cardiac cine, ClarityIQ technology reduces patient dose by 53% while maintaining equivalent image quality, compared to a system without ClarityIQ.

FlexVision Pro & Touch Screen Module Pro
Full control at table side, with tablet ease

2D-QA
Measurements for comprehensive diagnosis, decision making, planning, and evaluation of cardiovascular procedures

PCI Applications
Live tools aiding PCI procedures

Volcano Integration
Store and export IVUS, iFR, SyncVision images in the same patient file as the X-ray data.
PCI solutions to simplify your workflow and enhance patient care

**Decide**

- **Efficient diagnostic acquisition**
  CardiacSwing of LCA and RCA gives an overview of the coronary vasculature, providing additional anatomical insights with lower radiation and contrast.

- **Quick measurements of lesions**
  2D-QA measures lesion stenosis on an angiogram during the procedure, now possible to do in parallel to fluoroscopy with Instant Parallel Working.

**Guide**

- **Guiding through the intervention**
  Dynamic Coronary Roadmap provides live image guidance to position the guidewire distal to the lesion.

- **Express physiological measurements**
  iFR Roadmap, co-registration of the iFR physiological measurement in relation to its anatomical location on the X-ray image, during the decide stage of the procedure.

- **Advanced physiological measurements**
  SyncVision IFR co-registration can be used when the lesions are more complex and advanced insights are required, mapping the physiology gradients onto the angiogram.

0.89 iFR cut-point, backed by data.

The clinician can use this value in combination with other factors specific to patient’s condition to determine treatment necessity and options.
**Pre-Stenting evaluation**
During positioning, StentBoost Live enhances live stent visualization to verify lesion coverage.

**Post-Stenting evaluation**
After deployment, StentBoost Live in real-time visualizes positioning and integrity of the stent.

**Post intervention physiological measurement**
Post-stenting evaluation with iFR Roadmap confirms the result of the intervention.

**Post intervention advanced imaging solutions**
SyncVision, iFR Co-registration and IVUS co-registration can be used to identify the result of the intervention and to verify whether additional treatment is needed.
Needless to say, seeing better can make your job a whole lot easier. Dynamic Coronary Roadmap, a Philips-exclusive technology, creates a motion-compensated, real-time view of coronary arteries. A highlighted coronary angiogram is superimposed on a live 2D fluoroscopic image, creating a colored roadmap that adjusts automatically, providing continuous visual feedback on positioning of wires and catheters.

It’s also fully integrated with the system and features automatic storage and easy re-display of previously acquired roadmaps to enhance procedure efficiency without changing current workflow.

For more information please visit www.philips.com/dynamiccoronaryroadmap
One of the most common complications of PCI is acute kidney injury (AKI), primarily induced by the use of nephrotoxic contrast medium. PCI patients who develop AKI have an increased risk for complications, length of stay, and additional acute care costs.9 The above graph is reproduced from data presented by Brown et al.9 The results of this study show that contrast medium reduction should be a priority in today’s PCI procedures.

How Dynamic Coronary Roadmap benefits you:

- Real-time, automatic, motion-compensated coronary imaging for easier image guidance
- Store and easily re-display previously acquired roadmaps to enhance procedure efficiency
- Integrates seamlessly into standard of care workflow and daily clinical practice

A severe lesion is located at the mid-portion of the LAD, immediately distal to a large diagonal branch. Because of the complicated location of the lesion, the guide wire tracks down the diagonal branch instead of the LAD. Anchoring the wire in the LAD is required to provide enough stability to cross the lesion with the stent. With Dynamic Coronary Roadmap, you can retrieve and selectively advance the wire to the targeted vessel, in this case, without requiring additional contrast test injections.
To help save lives, you have to see live

Accuracy is everything in your job. And the fact that stents are getting harder to see doesn’t help. Today’s StentBoost Live* builds on a decade-long legacy of innovation and experience by offering Philips’ most advanced live stent visualization technology yet. It quickly helps you verify positioning before and after deploying balloons, stents, and intra-coronary devices to display underdeployment and confirm full expansion. And it’s all done in real-time, eliminating the need for waiting on new images before you reposition the stent.

* 5th generation of Philips StentBoost application
For more information please visit www.philips.com/stentboostlive
To avoid vessel injuries, a high-pressure balloon must be accurately placed within a stent. However, advances in stent design have made visualization of struts and stent edges more difficult, creating a challenge for accurate balloon placement. StentBoost Live is used to visually guide the high-pressure balloon to the proximal end of the stent. Continuous stent visualization shows the placement of the balloon fully within the stent.

“StentBoost Live enables fast and efficient placements of multiple stents and achieves the right amount of overlap – or avoids overlap in case of BVS.”

According to the personal opinion of Dr. B. Drieghe, Interventional Cardiology and Electrophysiology, University Hospital Gent, Gent, Belgium.

How StentBoost Live benefits you:

- Live enhanced visualization of device positioning and deployment in real-time
- Designed for procedural effectiveness and greater efficiency with enhanced visualization of moving intra-coronary devices
- Seamless integration into standard of care workflow for optimized PCI

Post-stenting balloon dilation with a high pressure balloon

All images courtesy of Hospital Aster Medcity, Kochi, India.
Over the last few years, co-registration technologies have improved tremendously, now allowing for more accurate and real-time mapping of live images and functional data. Not only does this technology help you determine the appropriate therapeutic approach, it lets you deliver treatment with more confidence. Not to mention, improve patient care.

Philips offers a variety of co-registration solutions depending upon the needs of your cath lab, so you’re ensured smooth integration in your PCI workflow.
Proven outcomes from the DEFINE FLAIR and iFR Swedeheart studies

Patient outcome data from the DEFINE FLAIR and iFR Swedeheart trials, demonstrated that, compared to an FFR-guided strategy, an iFR-guided strategy offers a more cost-effective and faster diagnostic solution with significantly reduced patient discomfort, while delivering consistent patient outcomes.

These studies included 4,529 patients and represent the largest randomized coronary physiology outcome studies to date.

Consistent patient outcomes using iFR guided strategy, as FFR

![Graph showing consistent patient outcomes using iFR guided strategy vs FFR]

- DEFINE FLAIR: 6.8% vs 7.0%
- iFR Swedeheart: 6.7% vs 6.1%

* p-values are for non-inferiority of an iFR-guided strategy versus an FFR-guided strategy with respect to 1-year MACE rates. Pre-specified non-inferiority margins were 3.4% and 3.2% in DEFINE FLAIR and iFR Swedeheart, respectively.

Reduced patient discomfort

- DEFINE FLAIR: 3.1% vs 30.8%
- iFR Swedeheart: 3.0% vs 68.3%

* p-values are < 0.0001

Less procedural time

- DEFINE FLAIR reported a 90% reduction in patient discomfort
- iFR Swedeheart reported that with no hyperemic agent, you can achieve a 95.7% reduction in patient discomfort using an iFR-guided strategy

More than 4,500 patients

2 prospective randomized controlled trials

Published in The New England Journal of Medicine
Philips exclusive co-registration technologies

iFR Roadmap

Express iFR co-registration guides you to make your decisions
iFR Roadmap, a Philips exclusive technology and an extension of Dynamic Coronary Roadmap, provides an automated, real-time, co-registration of the iFR physiological measurement with its anatomical location on the Dynamic Coronary Roadmap.

Using the Philips Volcano Verrata/Verrata Plus pressure wires, you can easily integrate IFR measurements into your daily PCI routines. That means enhancing workflow in iFR pullback, FFR spot measurements, and providing data of your treatment decisions.

How iFR Roadmap benefits you:

- Real-time co-registration on one screen for enhanced workflow
- Post-measurement review of physiological data for lesion assessment and confident treatment decisions
- Capture and storage of the iFR/FFR evidence, including facilitated transfer to PACS/DICOM

iFR Roadmap during pullback

1. The initial distal iFR measurement of 0.82 provides an indication of the significance of the lesion.
2. The pressure wire passed the mid LAD showing a first pressure drop due to the myocardial bridging and a borderline measurement of 0.89 iFR.
3. The final iFR measurement equalized to 1.0 once it crossed the lesion seen in the proximal LAD.
Advanced physiologic imaging with SyncVision iFR Co-registration

iFR Co-registration graphically maps the physiology gradients onto the angiogram, to better distinguish focal and diffuse coronary disease, and to guide therapy.13

How SyncVision benefits you:

- iFR Co-registration maps physiological gradients onto the anatomy to plan your procedure, provides precise lesion severity and location
- iFR Co-registration allows length measurements without the need for a cumbersome pullback device

SyncVision

Advanced Imaging Solutions
SyncVision package in concert with CORE IVUS and physiology provides an advanced imaging solution designed to address imaging and physiological challenges in the cath lab.

It allows you to streamline lesion assessment, simplify vessel sizing, and support precise therapy delivery. Simply put, that means more confidence for you and better care for your patients.

Advanced intravascular imaging with SyncVision IVUS Co-registration

IVUS Co-registration is designed to help reduce the risk of geographic miss, making it easier to identify your ‘healthy-to-healthy’ landing zones and your stent diameter and length selection.14
PCI suite

System platform
Azurion ClarityIQ, AlluraClarity, Allura Xper

Dedicated PCI Applications
Dynamic Coronary Roadmap
StentBoost Live
CardiacSwing
3DCA
CT TrueView

Philips Volcano Devices
CORE Family
IVUS
iFR/FFR
iFR Scout

SyncVision
IVUS co-registration
iFR/FFR co-registration

Integrated Tools
IntelliSpace CardioVascular
CX50
Xper IM
Xper Flex Cardio
CORE Integration
DoseWise Portal

Other Cardiology Solutions
HeartNavigator
EchoNavigator
EP Navigator
EPIQ Ultrasound (with TEE)

Accessories
Radial access arm board

Dynamic Coronary Roadmap and StentBoost Live compatible with Azurion are not yet CE marked and not yet available for delivery. iFR Roadmap is considered work in progress and is not CE marked and not available for sales. This material is not for use in the United States.

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