New perspectives for the EP lab

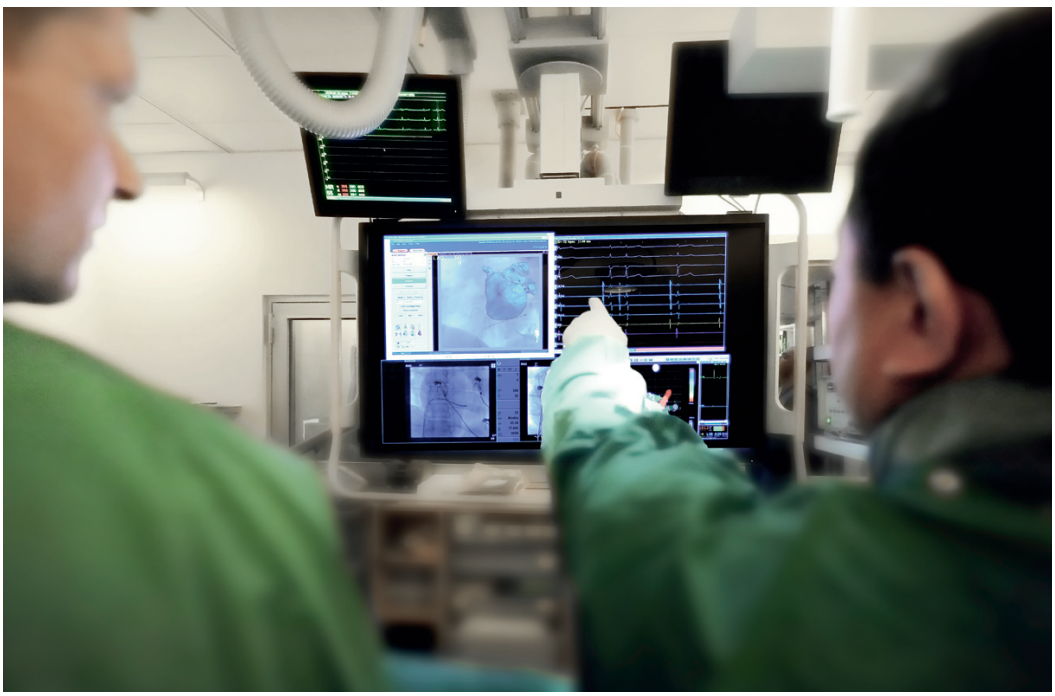
Philips EP cockpit XL

Who/where
Department of Cardiology
Deutsches Herzzentrum Berlin (DHZB)
Berlin, Germany

Challenge
Enhance procedural comfort, ergonomics, and visibility of data from different data sources in an integrated EP lab environment

Solution
Upgrade an existing installation of EP cockpit with a new extra large LCD screen with Superzoom

The XL version of Philips EP cockpit provides an integrated EP lab experience with outstanding comfort thanks to the new extra large LCD screen with Superzoom.



See more details with SuperZoom

Dr. Jin-Hong Gerds-Li, specialist for complex electrophysiological (EP) interventions at Deutsches Herzzentrum Berlin (DHZB), leaves us in no doubt about his preferred working place: "We have to leave our EP lab from time to time to perform interventions in other DHZB cath labs. It's not easy because I am now used to EP cockpit XL. You suddenly feel five years older in an ordinary cath lab."

The next step in integrated electrophysiology

What Gerds-Li is referring to is the new XL screen that was introduced in the EP lab of DHZB at the end of 2008. Located in the heart of Berlin, DHZB is one of the leading centers for cardiology and cardiac surgery in Germany, serving patients from all over the world.

PHILIPS

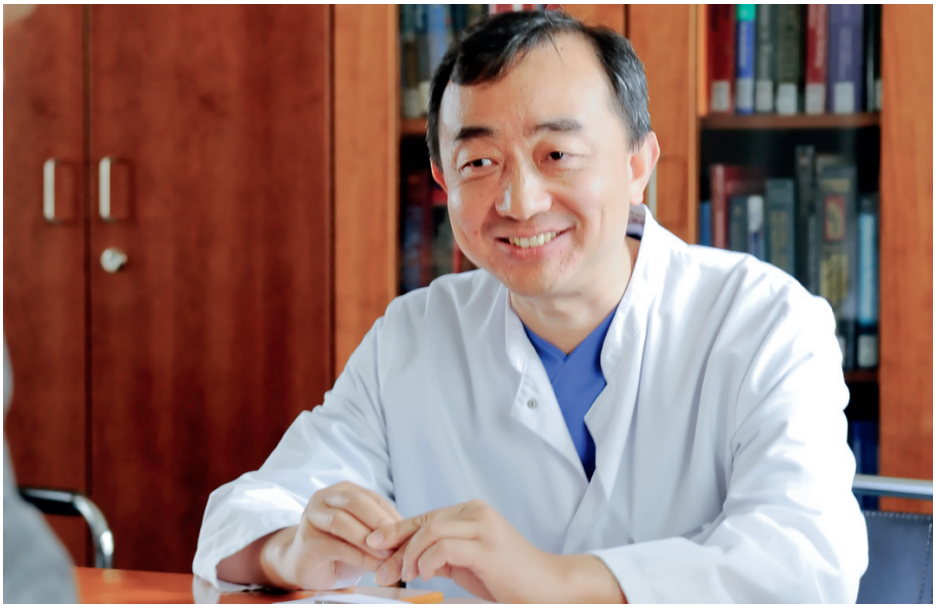
In 2007, DHZB became the first Philips customer worldwide to work with Philips EP cockpit. The introduction of EP cockpit meant that DHZB doctors were able to work in a tidy environment with well organized equipment, and tableside control of the monitors.

The new XL screen with Superzoom function is the logical next step in the evolution of electrophysiology as understood by Philips. "With the introduction of EP cockpit in 2007, the field of electrophysiology gained considerable momentum at DHZB. With the new XL screen, we now have many more advantages, in particular when it comes to visibility and ergonomics," says Dr. Stephan Goetze, CRM specialist at DHZB.

"Now the signal is really excellent, procedures can be done more efficiently."

All information in one place

The new XL screen of Philips EP cockpit brings together image information from up to eight data sources on a single, extra large LCD screen that can be controlled both from the control room and from a tableside panel in the exam room. The XL screen is fully integrated into EP cockpit, which makes it possible to show on screen any other image source as well.



Dr. Jin-Hong Gerds-Li, EP specialist at DHZB

It is far easier for the EP staff to keep track of the different information when it is available on one large screen. "This is really helpful, I look in one direction and I have all relevant information in front of me without having to turn my head. You don't have to look down and right or up and left like you would have to with less integrated systems," says Dr. Mattias Roser, an EP resident doctor in the department of Professor Eckart Fleck, head of cardiology at DHZB.

"With the XL screen, we can enlarge the signals and analyze them more precisely."

While the EP cockpit XL can display up to eight different images on the extra large screen, it does not necessarily have to be that many. In fact, one of the strengths of the extra large screen with zoom function is that it offers EP staff huge flexibility. Eight images can be displayed and arranged in whatever order necessary. But if only two or three images are required, this is also fine. And with the Superzoom functionality, image size can then be adjusted for each image individually to make maximum use of the screen.

Enlarged images to see more detail

For Dr. Gerds-Li, the most striking feature of the EP cockpit's XL screen with its Superzoom functionality is that the images are so large that the XL screen genuinely delivers a new EP lab experience. "In EP interventions in particular, we have to work a lot with intracardiac electrograms. With the XL screen, we can enlarge the signals and analyze them more precisely," says Gerds-Li. Smaller ECG potentials in particular could not be evaluated as thoroughly in the past when only smaller screens were available, says Gerds-Li. "Now the signal is really excellent, and this is of benefit both for the staff and for the patient, since procedures can be done more efficiently."

Dr. Stephan Goetze, CRM specialist at DHZB

The enlarged images on the XL screen improve procedural comfort

One might think that enlarging images would mean a reduction in image quality, with images becoming more blurred or coarse-grained. This is not the case, says Goetze. On a day-to-day basis, he never has to zoom out of an enlarged image in order to increase image quality.

Greater comfort

Better ergonomics was one of the first things that Dr. Gerds-Li noticed when the XL screen was introduced. "In the past, I regularly had to lean over the patient in order to see the details of an electrogram or an angiography. Today I can look at the XL screen for hours if necessary."

This convenience is an advantage not only during the procedure or intervention, but also afterwards: "There is certainly less hardening of the muscles and less tension in the evening. It is really far more relaxed." Ergonomics are further enhanced by the ability to move the XL screen in multiple directions. "The screen can be maneuvered seamlessly so that every examiner is able to place it in the position that suits him best," says Goetze.

"The EP cockpit XL does indeed meet the requirements of all kinds of EP procedures."

Flexible control

To make switching between images and zooming in and out as easy as possible, the XL screen can be controlled right at the tableside using an intuitive touch sensitive control panel. Of course, all control options are also available in the control room.

Everything at hand in complex procedures

In complex interventions, the XL screen is at its most impressive. When it comes to pulmonary vein isolation in patients with atrial fibrillation, a whole range of data sources can be necessary. This is where EP cockpit XL comes into its own: with its extra large screen, the EP cockpit XL can display the right information in the right size and in the right place.

Whatever the interventionalist might need, can be displayed, from live images to reference images, from rotational angiography to Carto mapping, from CT scans to MRI or ultrasound images. Every system that is integrated into the EP cockpit can display its information immediately, and images can be resized and the order rearranged, tailored to personal preference.

Better orientation in CRT procedures

"The EP cockpit XL does indeed meet the requirements of all kinds of EP procedures," says Goetze. "It helps tremendously in complex interventions, but it is also very useful for device implantations." For pacemaker implantations, for example, two image sources are needed, the live image and the reference image. "It is certainly much easier for the electrophysiologist to have two large images directly next to each other on one big screen than to have them on separate and smaller monitors.

What is important in pacemaker implantations are the movement of the diaphragm and the localization of the electrodes. An XL screen gives you this information at a glance."

When cardiac resynchronization therapy devices are implanted, additional information sources are needed. Goetze: "The ability to map the coronary sinus in three dimensions using rotational angiography is a tremendous step forward in CRT implantations.

With the XL screen, we have the option to bring in these data as a third or fourth image on the screen, in addition to the live image and the reference images."

All in all, DHZB's electrophysiologists are more than happy with EP cockpit XL.

Apart from making it easier to see relevant information, the XL screen with Superzoom improves procedural ergonomics and provides a maximum in visual clarity. This is good for the patient as well: The better the EP lab efficiency, the more smoothly procedures will take place.

Dr. Mattias Roser, EP resident at DHZB

"An XL screen gives you this information at a glance."

About Deutsches Herzzentrum Berlin (DHZB)

Founded in 1986, DHZB quickly became one of the leading centers for cardiology, cardiac surgery and pediatric cardiology in Germany and beyond. DHZB specialists treat a total of around 24,000 patients per year, a third of which as in-house patients. Cardiac surgeons perform roughly 4,500 cardiac and vascular surgeries. In addition, there are 5,500 catheterizations a year in the cardiology clinic. The hospital has 162 beds at its disposal and employs approximately 1,100 staff.

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