

# Shengjing Hospital, China

Medical image details: a matter of life or death?

## Hospital

**Name:** Shengjing Hospital  
**Location:** Shenyang city, Liaoning Province  
**Number of beds:** 2,300  
**Employees:** 3,100

## Challenges and opportunities

- high patient volume – tight budget
- optimize efficiency
- increase diagnostic confidence

## Solution

- 4 Nio 5 MP displays
- 10 Nio 3 MP displays

## Why Barco

- market leader
- solid reputation for quality
- product performance

## Benefits

- diagnostic confidence
- good value for money
- reliability (maximum uptime)



customer experience

**”** *Barco helps us to ensure the most accurate diagnosis, which entirely matches our mission to provide world-class healthcare to our patients and proper education to our students.*

*Dr. Guo Qiyong  
President and Chief Radiologist*

At the Shengjing Hospital, the largest healthcare institute in northeast China, quality and continuous improvement are a recurrent theme. By introducing a PACS, Shengjing's management succeeded in increasing efficiency, cutting costs and, above all, further enhancing its medical services, setting an example for other Chinese hospitals.

When the previously installed CRT displays failed to meet the radiologists' high specifications for faultless accuracy and reliability, the hospital management turned to Barco. Barco duly installed 14 Nio displays. The diagnoses with the new equipment are exceptionally accurate and reliable, thus significantly improving the outcome for patients.

“High-quality diagnostic display technology can literally be a matter of life or death, so it's key to our team. In fact, we can no longer imagine working without Barco displays,” concluded Liao Wei, Vice-Chief Radiologist at the Shengjing Hospital.

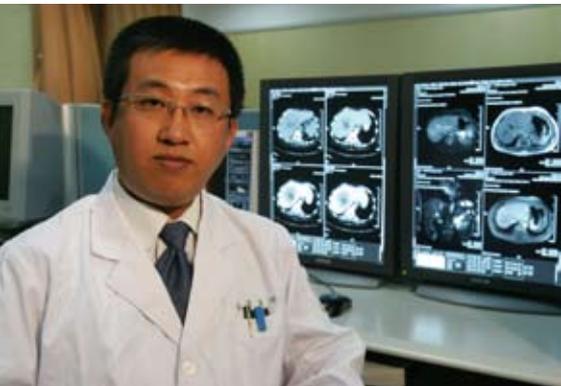
The hospital is so satisfied with the Barco solutions that they've recently extended their installation with 20 more Nio displays.

**BARCO**

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# Shengjing Hospital leads the way in reliable diagnostic viewing – with Barco displays.

University hospitals have a clear, yet challenging mission: to achieve superiority in medical services by constantly raising the bar. After all, they are their country's medical centers of excellence, training the doctors of the future. So their pursuit of high quality is visible everywhere: in patient treatment and care, staff, training programs, research efforts and, not least, in the medical equipment and supplies. The Shengjing Hospital is a beacon of best practice. To ensure faultless diagnostic performance, the hospital's radiology team relies on Barco Nio displays.



*"PACS helps us to cut costs and reduce diagnostic errors." - Dr. Liao Wei*

Guo Qiyong, President and Chief Radiologist: "We're recognized throughout China for experimental, innovative and technically sophisticated services in many medical disciplines and enjoy an excellent reputation for our patient-centric approach. The number of patients from more distant towns is growing year after year, as word of our good work spreads across the country. After all, as patients become more and more demanding, only the best possible healthcare provider will do." The rapidly growing patient volume - 7,000 to 8,000 a day at present - poses a challenge to the hospital. "The workload is heavy", continued Dr. Guo Qiyong. "So we're constantly on the lookout for ways to enhance efficiency without compromising quality."

## PACS for increased efficiency

The radiology team, for example, conducts around 300,000 examinations each year. Most of these - about two thirds - are still traditional X-rays. But the hospital increasingly relies on other imaging diagnostic systems as well, such as Computed Tomography (80,000/year), Magnetic Resonance (20,000/year), PET/CT scans (1,000/year) and mammograms (5,000- 6,000/year).

With the number of examinations growing rapidly, the acquisition, storage, processing and display of radiological images is a gigantic task. In 2001 the radiology department found a solution to boost efficiency: it implemented powerful PACS software from a local solution provider. "In the past, when we stored and viewed the medical images from conventional films, we did a couple of hundred radiological examinations per day. Since the introduction of PACS we've been examining around a thousand patients a day", Liao Wei, Vice-Chief Radiologist, illustrated. "That's a huge gain in efficiency. On top of that, PACS helps us cut costs and reduce diagnostic errors."

## Top quality at a competitive price

For the radiology team to have 100 % diagnostic confidence, however, reliable PACS software alone is not enough. The quality of the medical displays is equally important. The CRT monitors the hospital was using until recently, however, did not really achieve the required accuracy. "For mammography images we had to stick to conventional films as the CRT monitors didn't offer the resolution and image contrast required for the early detection of breast cancer," Dr. Liao Wei admitted. "And in many other cases we compared the on-screen images with the conventional films, both for initial diagnosis and for follow-up, as the on-screen images were too unclear for reliable results." The situation prompted Shengjing hospital to replace its CRT monitors by LCD technology.

Even though cost played a role in its search for LCD monitors, the hospital was not willing to settle for anything less than the best quality available. So they chose a state-of-the-art technology that offered good value for money: Barco's Nio displays. Dr. Guo Qiyong: "Barco has a good reputation as being top when it comes to medical visualization, so we were eager to team up with them. The Nio displays, which had just been launched at the time, seemed tailor-made for our needs, as they ensure very good imaging at a competitive price."



*"With the Barco displays, you get a clear view of all details you need." - Dr. Liao Wei*

## Diagnostic confidence

The Shengjing Hospital signed a contract with Barco to install ten Nio 3 MegaPixel displays and four Nio 5 MegaPixel displays in the radiology reading room. Barco did a good job setting up the configuration and integrating it into the PACS, in close cooperation with the local supplier.

Today, 40 doctors in the radiology department use the Barco displays for diagnostic reading. The system works to everyone's satisfaction. "By switching to Barco, we have achieved our initial objective: to enhance our diagnostic performance, while further raising efficiency. With the Barco displays, you get a clear view of all the details you need. The image crispness, as well as its brightness, are very good. We can easily flip, zoom and mirror images, or rotate them to a certain angle, to view specific details. Equally important is the consistent image quality and the high contrast. On top of that, the Barco displays allow for fast image loading and are very reliable, which is a must as downtime is totally unacceptable with our heavy workload. We really can't imagine making diagnoses these days without the Barco displays," Dr. Liao Wei laughed.

The hospital management also praises the solution's great total cost of ownership. Besides the cost-effectiveness, the displays consume less power than conventional CRT displays and have a longer life span. Liao Wei: "Regrettably, with CRT screens, the brightness and the intensity of the colors decreased after one to two years. I'm convinced Barco will do much better."

## Achieving the hospital mission

"Digital medical imaging is the only viable technology going forward and Barco really is the leader in its field. We're glad and proud to be able to work with these monitors and to make our students familiar with this leading-edge technology. Barco helps us to ensure the most accurate diagnosis, which entirely matches our mission to provide world-class healthcare services to our patients and proper education to our students," concluded Dr. Guo Qiyong.



*"By switching to Barco, we have achieved our initial objective: to enhance our diagnostic performance, while further raising efficiency." - Dr. Liao Wei*



## Shengjing Hospital

Located in Shenyang city, Liaoning Province, the Shengjing Hospital is the largest hospital in northeast China. With over 2,300 beds, Shengjing Hospital delivers a full range of inpatient as well as outpatient healthcare services, treating around 1,800,000 outpatients and 68,000 inpatients per year. As an affiliate of China Medical University, it provides on-the-job training to 300 doctoral students and 500 masters.

Shengjing Hospital's 3,100 professional staff, among them 416 professors or associate professors, use the most advanced medical technology, making Shengjing Hospital exemplary for China's fast-growing healthcare sector.



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## The experts



**Dr GUO Qiyong, MD**, is the president of the Shengjing Hospital, head of the department of radiology and chairman of the department of medical imaging. In addition, Dr. Guo is a professor and advisor of PhD students. He also holds positions as a standing commissioner of both the Division of Radiology of the Chinese Medical Association and the China Medical Technology Research Association.



**Dr LIAO Wei**, Vice-president of Shengjing Hospital's radiology department, holds a PhD in medicine. As a qualified expert in the imaging diagnosis of the abdomen, Dr Liao teaches medical students on that topic and is a committee member of the Chinese Society of Radiology.

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