

## User report

# Increased Effectiveness in Mammography Screening and Clinical Radiology

## German Regional Hospital Rendsburg-Eckernförde uses JiveX to tackle future-oriented projects

Prof. Dr. Joachim Brossmann, Director of radiology  
Hospital Rendsburg-Eckernförde

With its 834 patient beds, Kreiskrankenhaus Rendsburg-Eckernförde counts among the largest hospitals in the North German federal state of Schleswig-Holstein. Each year, a total of 15 medical departments of this hospital in the regional care provider category serve approximately 42,000 outpatients and 38,000 inpatients.

The Institute for Diagnostic and Interventional Radiology, headed by Prof. Dr. med. Joachim Brossmann, acts as a hub for all medical departments. A key focus here is on digital mammography and early detection of breast cancer; approximately 10,000 patient exams are carried out annually, with an upward trend.

## Focus on curative and screening mammography

The key reason for this trend is that one of the two screening centers of the region is located directly on the campus of the Rendsburg hospital, in the „Center for Breast Diagnostics“, managed by Prof. Brossmann as the Physician-in-Charge. From here, the administrative regions of Rendsburg-Eckernförde and Ploen are served, as well as the urban areas of Neumuenster and Kiel. In the rural areas, a trailer, the „Mammobil“, is in use. The second screening unit is managed by a GP practice in Kiel. The fixed sites are not connected to each other, and their activities are organized separately.

In this area, approximately 91,000 women who live there are entitled to screening services, out of whom 45,000 in the region



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served by the screening unit Rendsburg. "On average, we calculate approximately 1,000 mammographies per month", says Prof. Brossmann.

In addition to this, the Rendsburg hospital is part of a network organization with three other hospitals and a practicing radiologist, in the „Holsteinisches Brustzentrum“ (HBZ), the Holstein Breast Center. Based on a Disease Management Program (DMP) which aims at optimizing standards of care, collaboration across disciplines and care providers takes place, for the direct benefit of clients and patients.

### ***Seamless integration with MammaSoft***

"When our bid for the screening unit was accepted in September 2006, it soon became obvious for us that we had to acquire a powerful PACS. The existing solution, a mini PACS from a different vendor, could not meet the highly demanding requirements. Its functionalities were not capable of providing the required support for effective work in clinical radiology", remembers Prof. Brossmann.

After a detailed selection process, the decision was finally taken in February 2007 in favor of VISUS and its PACS JiveX. "The integration of the mammography screening into the PACS and properly functioning communication with MammaSoft were of particular importance to us – both had to be safeguarded. VISUS had laid testimony to this, in an impressive way, in existing installations. Apart from the positive references, last but not least the price-performance ratio convinced us", is how the Head Radiologist in Rendsburg summarizes the criteria for the selection. Since the inception of the screening unit in September 2007, the radiologists work with three Diagnostic Workstations Mammo.



Reception Hospital Rendsburg-Eckernförde

## ***PACS opens up new pathways into the future***

The PACS, however, was supposed to be used not only within the screening unit, but also in particular with the aim of optimizing the processes of clinical radiology in the hospital. “For this purpose, we placed particular attention on integrations vendors had previously realized with our existing HIS/RIS solution, medico//s”, is a further selection criteria mentioned by Prof. Brossmann. The archive was supposed to be extended by mid-2009 in a way which allowed for all image data of the hospital – including data from sonography in other departments which are still archived in a separate system today – to be managed and transmitted in the PACS centrally in DICOM format.

The web-based enterprise-wide image distribution to all departments of the hospital is already realized, the distribution into the ORs as well as digital rounds are currently being implemented. “We plan to finalize this project, too, by mid-2009 at the latest in order to bring down the use of film to a zero level. Already today, only few referrers still receive X-ray films, the vast majority of them insist on receiving digital images on CD-ROM”, according to Prof. Brossmann.

In addition, a teleradiology link of hospitals in the surrounding area is being planned, e.g. to enable consultation and second opinion regarding specific issues. In this case, too, JiveX offers the best options, and VISUS has a positive track record in this field, according to the radiologist’s conviction.

## ***Smooth and streamlined workflows***

“The rollout of the new system took place without problems, and was finished within three days. The deep integration of the PACS and MammaSoft ensures smooth workflows in mammography screening”, is the preliminary conclusion Prof. Brossmann draws with satisfaction.



Mammobil

The client is invited via MammaSoft. When she presents in the practice, all the data is fed from the patient ID into the system and sent to the worklist of the modality. The image retrieval for reading is again carried out using the name of the client in MammaSoft. In cases where women come to the breast center for follow-up exams, previous images are also retrieved automatically. As soon as reading is finalized in MammaSoft, the subsequent images to be read open up automatically, which safeguards a smooth workflow.

### ***Working conveniently and without stress***

With regard to clinical radiology, Prof. Brossmann again has only positive experiences to report: "Acceptance is at a very high level throughout. Regarding the few problems which occurred, we quickly reached the vendor's support via phone. In general, creating the physician's report has become significantly faster. The images are available immediately after acquisition, enterprise-wide, in the PACS. Reports follow in a timely manner, much more quickly compared to the era of X-ray films."

Thanks to the new PACS, radiologists can work much more conveniently compared to the situation before. Trouble-free comparisons with previous studies and the options of image processing, in particular zoom and windowing, help improve the quality and precision of the diagnosis. With X-ray images available anytime anywhere, the service of the radiology department for clinical colleagues has improved. Any questions can be answered in a timely manner by telephone, and clinicians can discuss images online together with their patients.

Looking back, Prof. Brossmann is content with the decision in favor of JiveX: "The PACS takes out a lot of stress in the departments. Previously, nurses and technologists were always on the move, searching for and fetching images; and physicians were dissatisfied because the required images and reports were not available. All this is a matter of the past today. And at the same time, our work has become a lot more effective".

#### **Equipment used:**

- **2 digital workplaces for bone exams**
- **1 fully digital thorax workplace**
- **1 digital subtraction angiography system (DSA)**
- **1 digital multifunction device (radioscopy, DSA)**
- **2 ultrasound devices with color doppler function and 3D ultrasound**
- **2 mammography devices with fully digital detector (one of these operated in a „Mammobil“)**
- **1 stereotactic table for recumbent patients, for vacuum biopsy**
- **1 16 slice spiral computer tomography scanner (CT), in co-operation with a physician's practice**
- **1 1.5 Tesla magnetic resonance tomography system (MRT), in co-operation with a physician's practice**

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