

## ***User Report***

# ***First, and Only, Enterprise PACS in Bahrain VISUS Supports High Patient Throughput and Leading-Edge Professional Services Bahrain Defense Force Royal Medical Services***

At BDFRMS, the discussion had shifted from “Do we need a PACS?” to whether to go for a department or modality oriented system or instead for a hospital-wide solution. Approaches differed widely, with issues reaching far beyond simple cost matters. The decision was taken in favor of JiveX Enterprise PACS, fundamentally changing the paradigm of work in radiology.

## ***Why JiveX Won the Project***

The first PACS enquiry from Bahrain, coming from a defense force hospital, had generated great interest from all leading international PACS vendors. To some globally renowned brands, it turned into a matter of pride to win the project. JiveX surprised the client by meeting requirements in total; at the same time it was the most cost-effective solution proposed on the basis of an open architecture which was within the budget of the hospital. VISUS' partner YMH had informed the client extensively about the JiveX solution and its competitiveness with any commercial solution in the market. YMH was one of the very few bidders that demonstrated PACS live by connecting the existing modalities in the hospital. A site visit to several hospitals in Germany ended up convincing the hospital management that JiveX is the solution capable of handling their workflow requirements.

## ***VISUS' Partner***

YMH is one of the pioneer companies, active in Bahrain for more than 75 years in various healthcare industry segments. The PACS/RIS financial offer from YMH was designed very competitively, and the VISUS partner was the only dedicated healthcare IT-company in the Kingdom with trained staff. YMH is listed as an excellent



*Bahrain Defense Force Royal Medical Services*

service provider and a recommended vendor in BDF as a pharmaceuticals and medical equipment supplier.

## ***Topography of Equipment and Infrastructure***

The modality landscape at BDFRMS includes a CT scanner, a DR device, two CRs, a mammography device, two MRIs, a nuclear medicine device, three ultrasounds, two digital RFs, a bone densitometer, two digital mobile X-rays, and two mobile C-arms. The Network infrastructure is based on Cisco and sports a 1 Gigabit-per-second backbone. The central storage solution comes from HP. The "All Care" HIS was developed in-house and the RIS is a solution from medavis. Voxar 3D and MammoCAD have been integrated as third-party applications. Data volume per year handled by JiveX is approximately 1TB; about 110,000 exams are handled by JiveX each year. Client systems total more than 200.

## ***Cost and Productivity, Benefits***

Improved availability, accuracy, speed, and economy become available to the physicians in all of the hospital's departments, anywhere and anytime. While savings in film and consumables as well as staff for film cabinets are obvious as a hospital goes primarily filmless, the benefits to the hospital and to the patient extend further: each day, each radiologist, clinician, and member of the support staff save several hours thanks to the new technology. Productivity goes up as clinicians can access medical images at the same time as they are available to the radiologist, and there is a marked increase in patient exams performed. Radiology procedure backlogs have been reduced. - Patients, on the other hand, benefit from better medical care even at short notice, and from reduced costs. Brig. (Prof.) Dr. Khalid Bin Ali Al Khalifa, Director of Royal Medical Services, Bahrain Defence Force Hospital, described the cost-benefit analysis for the implementation, highlighting technical and functional innovations: "We analyzed operator, paper, film, and chemical costs; costs of optical disks and location rent for hardware and software of RIS/PACS. The results show", Prof. Al Khalifa continued, "that advantages provided by the PACS

### **Modalities – primary vendor Siemens:**

- ▶ **CT Scanner - 1**
- ▶ **Digital Radiology (DR) - 1**
- ▶ **General Radiology (CR) - 2**
- ▶ **Mammography - 1**
- ▶ **MRI - 2**
- ▶ **Nuclear Medicine - 1**
- ▶ **Ultrasound - 3**
- ▶ **Digital RF - 2**
- ▶ **Bone Densitometer - 1**
- ▶ **Digital Mobile X-Ray - 2**
- ▶ **Mobile C-Arm - 2**

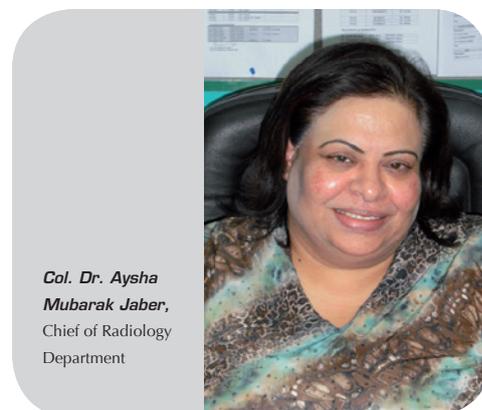


*Integrated Philips CT Modality*

implementation derive from workflow optimization and savings of staff resources rather than from a reduction in films and chemicals. Moreover, better management of the radiological unit provides improved handling of clinical information, resulting in reduced time to initiate clinical action, with reduction in average length of patient stay and improvements in overall health outcomes."

## Supporting Caregiver Leadership

As a Defense Force hospital, "we are always expected to provide world-class services to our patients", explained Chief of Radiology Department Col. Dr. Aysha Mubarak Jaber, "hence we decided to implement the first enterprise PACS/RIS in the kingdom, and I believe this innovation will help us maintain the position of the leading healthcare provider in the industry, and will set guidelines to other institutions." Regarding the teleradiology capabilities of JiveX, the Chief of Radiology highlighted that "my staff are no longer required to come to the hospital during off-working hours for any emergency since they can access the patient images to report through our hospital portal - right from their home PC. Thanks to the hospital IT and the VISUS team for the tight integration between the HIS, RIS and PACS!" Head of Information Technology, Capt. Sheikh Khalid Bin Hamad Alkhalifa, is highly satisfied: "The smoothness of the integration of the VISUS PACS and the RIS with our in-house HIS was very amazing as we had not worked with the HL7 protocol earlier. The resulting integration has had a significant impact by increasing the user's system reliability and enhancing the flow of patient information." Muneera Mohammad Khamis, Radiation Protection Officer & Supervisor, added: "I am happy to see my staff spending more time with patients rather than struggling with paper requests and films. This really makes our patients feel more comfortable and satisfied." Life as a technologist, Khamis went on to underline, "is simplified for me. I can make my patient my focus instead of being pulled in multiple directions at once." The ramifications of the full hospital PACS at BDFRMS extend even further – to the consideration of totally new possibilities such as real-time studies, time-sequenced trend analysis, and an evolution to telemedicine.



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