A Solid Investment

Luminos RF Classic[1], a new remote-controlled fluoroscopy system, is an analog fluoroscopy unit providing great value. Users benefit from innovative features and proven technology at a reasonable price.
Flexibility is vital for hospitals, imaging centers, and practices since their patients require a broad spectrum of applications and exams. Luminos RF Classic can easily handle the various imaging needs for fluoroscopy and radiography. Flexibility means not only covering virtually all examinations; it also means flexibility in configuring the system to meet individual working preferences and imaging needs. Customers can choose from two different image intensifier sizes (23 or 33 centimeters), opt for a compression device, tomography, different monitor configurations, and various accessories for patient positioning. Furthermore, an optional bucky wall stand increases versatility. With this addition, upright examinations can be done with ease using conventional film or CR cassettes in the wall stand.

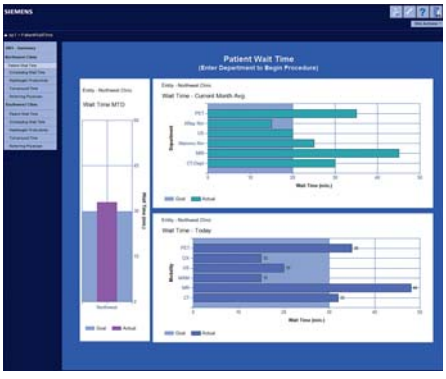
In terms of imaging and dose-saving capabilities, Luminos RF Classic makes a visible difference. High-contrast 1k x 1k real-time imaging with high-quality components are the basis for excellent image quality. Copper prefiltration, the last-image-hold function, and the removable grid keep radiation levels to a minimum without compromising imaging quality. For example, SUPERVISION[1] cuts radiation in half, which is especially suitable when imaging slow-moving organs.
Customers ask for systems that are user-friendly and simple. These two specifications are fulfilled with Luminos RF Classic. An intuitive touch-screen user interface helps provide comprehendible, quick operations. The innovative organ program editor can create up to 400 individual organ programs for all types of examinations.
Luminos RF Classic also makes a tangible difference in tableside operation. Comprehensive control elements located directly at the spot-film device enable easy operation of crucial functions right at the patient's side. The system allows excellent patient access, even from the rear. Providing convenience, the eight-way tabletop movement lets a patient be easily covered from head to toe without repositioning. In addition, with AutoRetrac, the tabletop is prevented from collision with the floor thanks to automatic retraction during tilting. In sum, such features substantially speed up workflow and make for a solid investment.

[1] Not available in the U.S.

New *syngo* Portal for Executives

Siemens latest imaging IT portal, *syngo*® Portal Executive[1], is a business intelligence tool that effectively demonstrates trends, problems, and opportunities within an organization. The Web-based solution enables paperless workflow for radiologists, administrators, and managers while providing executives with rapid and personalized access to information ultimately needed for key strategic planning in organizational, strategic, and operational task management. To this end, it uses industry-standard key performance indicators (KPIs). Productivity and quality parameters are measured objectively with these KPIs.
Whether it is trending exam volumes, monitoring patient wait times, or supervising report turnaround times, *syngo* Portal Executive provides the necessary tools to effectively highlight the medical facility's weaknesses and opportunities. With over 35 KPIs representing both real-time and historical data, *syngo* Portal Executive delivers uniform metrics management and valid comparisons across departments and facilities.
The intuitive user interface targets goals and averages for each KPI. Users can easily create new portal pages and customize the KPIs displayed on each page. The portal automatically generates internal event notifications and alerts, helping the user to take action when needed. Drill-down capabilities allow effective and in-depth top-down analysis of information. By measuring the bottom line, *syngo* Portal Executive helps to improve organizational performance and drive future growth. Not only can healthcare costs be reduced with the help of this system, but its installation also leads to higher patient and referring physician satisfaction.

[1] Available with *syngo* Workflow SLR only.



The patient wait time overview shows the discrepancy between acceptable (goal) and actual waiting times for *today* and the current monthly average, thus allowing immediate follow-up.

A Portal to Digital Radiography

X-ray systems with flat detectors deliver greater and more benefits than conventional X-ray systems that use film or imaging plates. However, the seemingly high investment costs can discourage immediate conversion to digital radiography. Examining more closely the advantages of MULTIX Swing with mobile flat detector* (mFD) can change this perception. This system is an affordable radiography solution especially developed for entry into the world of digital radiography. Digital radiography offers many benefits: integrated flow of patient data, fewer work steps, no costs for consumable materials, and optimization of images by postprocessing. MULTIX Swing with mFD gives the user access to the convenience and benefits of digital radiography. The mobile flat detector of MULTIX Swing brings flexibility to the system and is as easy to use as conventional cassettes. It accommodates different examinations and patient types in chest, trauma, and general imaging, and allows in-bucky and out-of-bucky exposures. Many manual work steps like identification and processing of cassettes are eliminated, making the workflow with the mFD faster and more convenient for the user. A preview image is available in seconds, and thanks to the wide dynamic range of the flat detector, under- or overexposed images are a thing of the past. The images can be postprocessed for different image impressions to suit different physicians. Greater convenience is extended to both users and patients alike. Immobile patients can simply remain in their wheelchairs during the examinations. Patient positioning is quick and easy thanks to the floating tabletop and synchronized tube and detector movement.

Using flat detector technology, MULTIX Swing yields considerable advantages in operational costs. Examinations with FD can be done in up to 50 percent less time than with an analog system. The results are shorter examination times with shorter patient waiting times and overall increased throughput in the radiography department, ultimately resulting in lower cost of ownership. When a film system is used, costs for X-ray film and processing chemicals add up to a considerable amount over the years. Affordability and high quality make this DR system a confident investment, especially for those facilities that want to switch to digital radiography and require a cost-effective solution.

*MULTIX Swing with mFD is not commercially available in the U.S.

At the Limit of Human Physiology

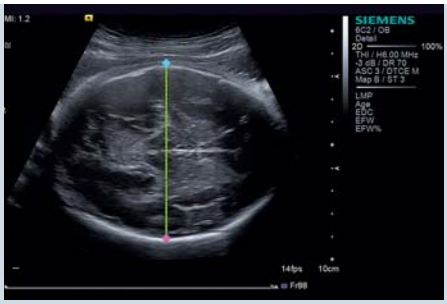
The extreme environment of the Himalayas allows researchers to investigate many aspects of human physiology. A major goal of a recent Mount Everest expedition conducted by Centre for Altitude, Space and Extreme Environment Medicine (CASE) of the University College London was to better understand the body's adaptation to low blood oxygen. The Xtreme Everest Expedition team took blood from four members near the summit. The samples were then brought down to 6,400 meters to be analyzed at the camp lab equipped with a Siemens RAPIDLab® 348 blood gas analyzer. Weighing only 13.1 kilograms, the compact system provided the scientists with instant and precise blood gas readings. It was also chosen because it uses a very small sample size of only 40 microliters.

The normal blood oxygen value in humans is 12 to14 kilopascals (kPA). Patients with a level below eight kPA are considered critically ill. The expedition readings were well below this – the average arterial oxygen level was 3.28 kPA. "Yet [...] we were walking and talking and functioning normally," says expedition leader Mike Grocott, MD. The findings have changed scientific tenets about the body's ability to adapt to oxygen deprivation and may benefit "patients with acute respiratory distress syndrome [ARDS], cystic fibrosis, and blue baby syndrome," says Grocott.

Photo courtesy of Cauldwell Xtreme Everest

www.xtreme-everest.co.uk

Abdominal circumference



Biparietal diameter

Crown rump length

Automated Fetal Biometric Analysis

Accurate ultrasound-based fetal biometric measurements are important to deliver high-quality obstetrical healthcare. They help diagnose fetal pathology including growth restriction, microcephaly, and macrosomia. In addition, they are utilized to estimate the gestational age (GA) of the fetus, which is important to determine the expected delivery date, assess the fetal size, and monitor fetal growth. Common measurements include the biparietal diameter (BPD), head circumference (HC), abdominal circumference (AC), femur length (FL), humerus length (HL), and the crown rump length (CRL). Up until now, users needed to perform these biometric measurements manually, which is a time-consuming process and increases user dependence and variability. In addition, due to the multitude of keystrokes required to perform each measurement, users are prone to develop repetitive stress injury (RSI).

syngo® AutoOB measurements is a knowledge-based workflow application unique to Siemens ultrasound systems that helps to address these issues. Based on advanced statistical pattern recognition technology, *syngo* AutoOB automates biometrical fetal measurements, not only saving up to 75 percent of the keystrokes in routine fetal exams, but also addressing the challenges of consistency and reproducibility in fetal biometry.

www.siemens.com/AutoOB

A New RIS and PACS Package for Diagnostic Imaging Centers

Siemens recently introduced a comprehensive and cost-effective IT package especially created for diagnostic imaging centers (DICs). *syngo*® Suite Essential* combines a Web-enabled radiology information system, a picture archiving and communications system, and a voice-recognition system (RIS/PACS/VR). The preconfigured system integrates all necessary IT solutions that are critical not only to business managers and medical professionals but also to their patients. With its turnkey delivery of hardware, software, storage, and network technologies, and with its interactive multimedia training, Siemens makes it easy and convenient for DICs to obtain and implement comprehensive RIS/PACS solutions.

Its modular approach gives healthcare providers the freedom to choose the exact workflow options that will help improve their productivity. Designed as a pay-as-you grow model, the package requires only a minimum upfront payment, eliminating the need for a large upfront capital investment and enabling a fast return on investment. The package also includes managed services for all hardware and software; therefore a dedicated, onsite RIS/PACS administrator is not necessary. *syngo* Suite Essential provides comprehensive business process solutions to improve efficiency and turn-around time for a variety of roles, including scheduler, technologist, radiologist, and transcriptionist. What's more, *syngo* Suite Essential improves the service level for the physicians with secure, Web-based access to patient images and reports. The IT solution integrates the entire imaging workflow end-to-end, thereby maximizing the quality of patient care and the efficiency of the daily operations in the diagnostic imaging center.

*Only available in the U.S.

As Good as New

Worried about losing some of its services to hospitals already equipped with 64-slice computed tomography (CT) scanners, Premier Imaging in Kansas City, Missouri, USA, decided to replace its existing four-slice scanner. In order to offer the most state-of-the-art technology to its patients, the clinic turned to Siemens to purchase a SOMATOM® Sensation 64-slice Proven Excellence scanner. Through its Proven Excellence Program, Siemens Healthcare offers original equipment manufacturer refurbished imaging equipment at outstanding price/performance ratios along with new equipment warranties, financing, and flexible service contracts. Premier Imaging was impressed with Siemens technological capabilities and with the like-new appearance of its refurbished systems.

The quality of the purchased SOMATOM Sensation 64 scanner leaves Premier Imaging's employees extremely satisfied. "This machine has delivered excellent images; they are comparable with textbook images," comments Mark Lavin, MD, radiologist at Premier Imaging.

International Reference Center

Aurea Mira

Hospital Clínic in Barcelona, Spain, and Siemens Healthcare entered into an agreement to advance the management of patient care through the use of integrated laboratory diagnostics (in vitro), imaging (in vivo) and information technology. The parties hope that the implementation of this agreement will provide healthcare personnel with more comprehensive patient information in order to make quicker and safer decisions in all stages of the healthcare continuum.

Hospital Clínic, Barcelona is one of the first hospitals in the world to initiate research programs to integrate in vitro/in vivo technology, making it an international reference center.

Siemens and hospital experts will collaborate to develop specific practices to increase early detection of diseases and abnormalities in three principal areas: hepatology, gastroenterology, and fetal medicine.

Patients could find new benefits with this integrated diagnostics approach, including the earlier detection of many medical conditions. In liver fibrosis, as an example, the number of biopsies could be reduced or replaced by a comprehensive in vitro/in vivo practice that can be used in the presymptomatic stages of disease. Researchers aim for preventive and more specific treatments, reduction of the number of days spent in healthcare centers, and improvement in patients' quality of life.

With this research project, there is hope that a new noninvasive marker for liver cirrhosis will be developed by combining biochemical markers with diagnostic imaging analysis. The current method for the determination of the level of liver fibrosis is undergoing a liver biopsy, which is highly uncomfortable and unsafe for patients.

Colon cancer is one of the leading causes of cancer-related deaths in the Western world. Up until this point, treatment has been associated with adverse effects. The collaboration project aims to identify markers that are able to predict responses to chemotherapy treatments.

Advancement is vital in the diagnosis and treatment at the fetal stage since diseases and complications at this stage can have permanent effects. Hospital Clínic, Barcelona hopes to combine its knowledge and different diagnostic methods with the technological skills of Siemens to improve the quality of life for the mother and the fetus. Biomarkers, new algorithms, and the development of new imaging methods for analyzing the fetal brain and heart are the areas of greatest joint development potential.

Aurea Mira, Manager of the Biomedical Diagnosis Center comments, "This agreement allows us to build a platform for a new concept for patient care. Integrated healthcare will benefit our patients in many ways, including the possibility of replacing invasive testing methods, such as biopsies, with a combination of non-invasive testing methods."