Radiology in the Information Age

Merge Highlights Solutions for Radiologists’ Workloads

By Michael Hart

The Information Age has arrived at RSNA 2015. If the hallmark of RSNA’s first century was the ability to deliver ever more precise and meaningful images, the Society’s second century will be defined by the development of innovative ways to manage those images and the associated information in ways that may ultimately improve patient care.

As radiology bridges these two eras, there are challenges – and not all of them are technical, according to Murray Reicher, M.D., chief medical officer at Merge Healthcare, an IBM company.

“Radiologists are drowning in images,” Dr. Reicher said. “We have entered an era where 1,000+ image CT, MRI, and PET exams are common. In academic environments, it is not at all uncommon to see 3,000-, 4,000-, and 5,000-image studies. In addition, radiologists now need to assimilate more clinical data than ever and take into account more scientific research in order to optimally perform their jobs. Radiologists need to track recommendations as well as communicate with other physicians and patients. It’s a daunting task that has become overwhelming.”

“Let’s first look at job satisfaction,” Dr. Reicher said. “Part of enjoying work is getting into a mental state of flow. Job satisfaction requires a sense of mastery and creative control over one’s environment, as well as knowing that you are doing a diligent job and helping people. You can’t get into a mental state of flow and you can’t enjoy your work when presented with an insurmountable task.”

There are ways to help resolve this dilemma, and Merge Healthcare, an IBM company, will address these topics at RSNA 2015.

“Cognitive computing holds great promise to help,” Dr. Reicher said, and he outlined three applications of computer technology Merge Healthcare believes may help radiologists efficiently navigate their workloads.

“First,” he said, “cognitive computing can be used to collect, compile, analyze, and present clinical data.”

In the future, he pointed out, prior to reading an exam, instead of inferring the pre-test probability of various diagnoses based on a keyhole view of the patient, he envisions that the radiologist will receive an accurate, concise presentation of existing diagnoses and be able to identify options for treatment that consider the imaging studies in the context of other available patient data, such as doctors’ notes from a patient record or patient contributed data from wearable devices.

“Second, image analytics can be designed to analyze the images to help clinicians identify anomalies,” Dr. Reicher said.

As an example, he described the daily workload of a hypothetical radiologist who must read 50 CTs a day (“Which is not very many,” he added.) If each of those CTs has 1,000 images, and there’s an old CT for comparison purposes, those 50 CTs translate to 100,000 images in a day’s work.

“Rather than a human triaging an insurmountable number of images, perhaps technology can enable the radiologist to instead focus on uniquely human and rewarding tasks, such as evaluating relevant images, applying our experience to making diagnoses, directing further work-ups, consulting with referring doctors, supervising technologists, participating in selection of proper imaging procedures, and educating patients,” adds Dr. Reicher.

Finally, Dr. Reicher suggested, “there’s a third, under-emphasized area of research and development, “perceptual design.” Perceptual design is informed by the study of human perception and cognition, and aims to create a radiologist’s reading environment that maximally leverages our human capabilities while helping us with our weaknesses.

All three applications of computer technologies may help – more efficient and...
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Koning Corporation
BOOTHS 1737 AND 1358
Low-Dose CT Scanner for Imaging Entire Breast
Koning Corporation introduces the first dedicated, low-dose CT scanner designed to image the entire breast. With a horizontal gantry, the Koning Breast CT (KBCT), allows comfortable prone patient positioning without compression of the breast and captures hundreds of volumetric images in a 10-second rotation. This creates true isotropic 3D images and ultra-thin cross sectionaSlices, giving breast imaging experts an unprecedented view of an organ that is notoriously hard to visualize. With KBCT, images are clearer and higher contrast, 360-degree views are easily manipulated, and the ability to effectively and efficiently detect breast cancer is improved.

Block Imaging
BOOTH 2507
New Online Store for Ordering Imaging Equipment Parts
Block Imaging launched a new e-commerce platform for ordering imaging equipment parts online. Radiology managers, biomedics and imaging engineers will enjoy the ability to buy imaging parts online and get the part needed next day. Thousands of parts for every modality, from CT and mammography to digital X-ray, are available within a few clicks. Online visitors will enjoy immediate access to real-time inventory lists, with pricing, live support chat and online payment features designed to increase the efficiency of the parts ordering process. The Block Imaging Parts eCommerce site is the first of its kind in the industry. No more waiting as transactions can take place 24/7. Find the needed part fast. Buy it online. Get it next day.

Dunlee
BOOTH 2700
Replacement CT Tubes and Parts
Introducing the Dunlee P40 for the GE Optima CT660 CT system—a smart choice for shrinking budgets. The newest addition to Dunlee’s portfolio of replacement CT tubes, the P40, is not only identical in fit, form, and function to the original tube, it carries the same exact warranty. Like all products Dunlee brings to market, it’s designed to perform better and last longer, yet costs considerably less than the competition. For predictable costs to help manage a monthly budget, ask about covering the Optima CT660 CT scanner under Dunlee’s exclusive Glassware Solutions and New Glassware Solutions™ programs. Take advantage of advanced engineering, extensive training, expert technical advice, and ongoing support programs for tubes and parts.

PenRad Technologies
BOOTH 3900
Comprehensive Software Solution to Manage LDCT Screening Patients
Automated innovations standard in PenLung facilitate various workflows and reporting options ranging from the gamut of nearly 50 separate findings and LungRADS™ combinations, to the basics for medical audit. PenLung provides automated web / tablet calculators to collect smoking and environmental risk history for patient eligibility. As with all screening programs, automation, optimization and efficiency are key to success and financial rewards. Radiologists interpret studies without modification to current procedures. PenLung obtains the narrative report via a commonly deployed health level-7 (HL7) message. From the exam’s narrative, PenRad’s AutoReader data extraction algorithm automatically extracts pertinent data and automatically generates appropriate letters and reports. PenLung tracks abnormality findings, recommendations, pathology and stage, patient non-conformance, etc., and creates audit reports available with a click of the mouse.

Ulrich Medical
BOOTH 1747
Syringeless Contrast Agent Injection
The ulrichINJECT CT motion™ features: unique roller pump system for more cost-effectiveness; direct and multiple injections from all commercially available media containers; detectors to reliably prevent air injection; two-piece tubing system with check valves and particle filter; display with user guidance on the injector; wireless-enabled administration with Bluetooth® and battery; synchronization interface for fluoroscopy. Available in versatile or with 3D ceiling mount.

DEPARTMENTAL MANAGEMENT
McKesson Corp.
BOOTH 1128
3D Digital Breast Imaging
McKesson Radiology™ is a fully web-based, comprehensive PACS solution that includes native solutions for 3D advanced visualization and digital breast imaging with support for tomosynthesis. Consensus™ is a suite of highly interoperable, vendor neutral, diagnostic image management and workflow orchestration solutions. Consense™ Image Repository is an enterprise image repository that provides a unified archive that can act as the central repository for all medical images. Consensus™ Clinical Data Exchange is a multi-“ology”, XDS-compliant solution that facilitates the sharing of the patient’s longitudinal record. Consensus™ Enterprise Viewer is a multi-“ology” enterprise-universal viewer that enables secure access to de-identified data enterprise-wide. Consensus Workflow Intelligence™ is a flexible workflow rules engine that connects seamlessly in heterogeneous system environments to consolidate interpretation and quality tasks. Consensus™ Imaging Fellow is an imaging-oriented solution that intelligently displays clinical data from relevant systems (imaging, EHR) in a context sensitive manner to help better manage clinical data consumption.

DICON COMPLIANT SYSTEMS
Codonics
BOOTH 3123
DICON Image Documentation Solution
Codonics, an award-winning, global provider to the medical industry, delivers the most comprehensive, economical DICOM image documentation solutions for today’s evolving healthcare environment. Its products offer exceptionally high throughput, super quality and unsurpassed reliability. Codonics designs and forward-thinking transcends the ordinary. From versatility to a small footprint and a unique service program, Codonics products are easy to operate and require minimal user maintenance. Truly ideal for referring physicians, Codonics provides the tools necessary for professional patient consultations and offers a unique marketing package that enables a facility to stand out over the competition. Today, Codonics is represented in 110 countries and has more than 40,000 installations globally. Codonics has been highly recognized for product innovation and exporting excellence with prestigious honors and awards.

EDUCATIONAL PRODUCTS AND LITERATURE
British Institute of Radiology
BOOTH 1015
New International Open-Access Radiology Journal
BJR case reports is the new international open access, case report journal of radiology, radiation oncology and all related sciences, published by the British Institute of Radiology. BJR case reports publishes quality peer reviewed case reports, case reviews and technical notes, making it an important educational resource for all those with an interest in the radiation sciences. Editor-in-Chief Giuseppe Guglielmi (University of Froggia and Casa Sollievo Hospital Scientific Institute, Italy) leads the international editorial board. The journal is published online only and all articles are free to read via the open-access model. As a special introductory offer, article processing charges are waived for all articles submitted by Dec. 15.

ELECTRONIC AND INFORMATION SYSTEMS/SERVICES
OnBase by Hyland
BOOTH 6190
Single-Storage Platform to Organize Standard EMRs
OnBase Vendor Neutral Archive (VNA) provides healthcare organizations with a single-storage platform that standardizes and centralizes medical imaging studies and other patient data from multiple vendor PACS. There is no need to support an additional system. And, because the VNA solution is built on the OnBase ECM platform, it leverages core ECM technologies to make both DICOM and non-DICOM content available in context with the patient record. OnBase VNA also offers users capabilities like workflow and automated retention policies. To support more informed care, the OnBase VNA solution allows users across the enterprise instant access to the information they need, where and when they need it from within the EMR. This not only helps bolster use of the electronic medical record (EMR), further positioning it...
Intrasense will unveil the brand-new version of its server software Myrian®, a full imaging solution for the diagnosis, therapy planning and follow-up on oncology and chronic diseases. New functionalities include higher accessibility, a brand new user interface and structured reading features for unequalled ergonomics and time-savings. New powerful capabilities have also been added to most Myrian clinical modules including XP-Breast, XP-Prostate, XP-Liver and XT-Brain modules. Be part of this breakthrough and discover how the new Myrian can improve productivity.

RSNA QUALITY ESSENTIALS AND ADVANCED LEVEL QUALITY CERTIFICATES

- Earn a Quality Essentials Certificate (QEC) by scoring 80% or higher on the SAM test at either of the following quality sessions: MSQI32 and MSQI33 on Tuesday, December 1 (Room S406B).
- Learn more about online opportunities for earning QECs and how QECs can lead to an Advanced Level Quality Certificate at RSNA.org/Quality-Improvement.

New! QI Storyboard Poster Walk, Tuesday December 1, 4:30-5:30 PM, Learning Center, Quality Storyboard Section
Join David Larson, MD, and Paul Nagy, PhD, experts in quality improvement in radiology, as they walk through the QI storyboards, highlighting examples of great work and sound methodology. Bring your walking shoes and come prepared for an interactive session. Those who are interested in leading and publishing QI projects in the coming months and years will find this especially valuable.

Questions? Please email quality@rsna.org for more information.
Velox RIS Solutions

Customizable, Fully Integrated Practice Management Solution

Velox RIS boosts profitability and increases quality of care by reducing costs, minimizing turnaround times and optimizing workflows. Velox RIS Solutions provides imaging centers and radiology groups with a cost-optimized, customizable and fully integrated practice management solution. Velox intuitive RIS Suite includes Velox RIS, billing integration, operational management and analytical tools, and referring physician portal.

INFINITT North America, Inc.

VNA Solution and Universal Viewer Healthcare Platform

The new INFINITT Healthcare Platform (IHP) centralized VNA solution provides open, standards-based storage and manages DICOM and non-DICOM data over their life cycle regardless of where the data originated. This VNA consolidates storage and unlocks proprietary formats from disparate PACS or siloed storage architectures, and makes it easier and more cost-efficient to comply with retention policies and security regulations. This fully scalable archive solution includes INFINITT’s universal viewer, a zero download viewer that supports all types of data from any HTML5 browser-based device. IHP supports intelligent information lifecycle management and integrates with any major EMR. It is offered as a software-only option or can be packaged with enterprise-class hardware from INFINITT’s Certified Solution Partners. INFINITT will work with providers to develop an enterprise medical data strategy that reflects the organization’s overall needs, and can help them leverage their existing infrastructure.

FILM AND IMAGE MANAGEMENT

StatRad

PACS-Integrated, Cloud-Based Image Management System

Created by radiologists, RadConnect is a cloud-based medical image management solution that integrates with PACS to enable intuitive, quick and secure sharing of DICOM images. It is the easy way to upload, view, share and store all the medical imaging needs. Simply: 1. Upload images into RadConnect using a modern web browser; 2. View the images with StatRad’s diagnostic quality, zero footprint HTML5 viewer; 3. Share and collaborate by sending a simple, secure email link. No more CDs, manual tracking, courier fees, or the manpower required to manage it. RadConnect’s cloud-based solution lets an entire organization— and patients and referring partners— view unbelievably clear, diagnostic quality images on any screen at any time, even on tablets and smartphones. RadConnect’s sharing feature can help you prepare for new patient appointments and transfers, and it can help prevent repeat exams as ordering clinicians have access to their patients’ prior images.

Intelemage, LLC

Medical Image Exchange and Workflow Platform

Intelemage, LLC announces the release of InteleGRID Core 4.0, the latest version of its industry leading, SaaS based, medical image exchange and workflow platform. Since 2007 InteleGRID has been powering clinical trial and life science workflows and today powers the top medical device companies’ pre-surgical planning platforms. InteleGRID Core 4.0 boasts the most secure, reliable and easily configurable medical image exchange along with the convenience of native mobile apps for iOS and Android devices. At RSNA 2015, Intelemage will present the latest cases in video enabled tele-health, health level-7 (HL7) interface modules (including RefMD auto-share) and its unlimited user / unlimited volume secure image exchange platform.

Laurane Medical, LLC

Interventional Radiology & Special Procedures

Laurane Medical, LLC is proud to announce the preliminary launch of the new generation of its bone access and biopsy device.
devices—the OmniBone™ Biopsy System. OmniBone is set to significantly raise the bar in intraoperative procedures for interventional radiologists, hematologists, and orthopaedic surgeons. This new technology features a uniquely grooved introducer for immediate bone purchase and controlled access. This can be used over a guide wire for unparalleled precision, minimizing exposure and overall procedure time. Removable handles also make every component of the OmniBone system versatile, lightweight, and easy to use. The OmniBone is an all-in-one unit, meaning that the choice is always where it should be—in the users’ hands.

**MAGNETIC RESONANCE**

**RAPID Biomedical, GmbH**

**Booth 3545**

**Neonatal Brain MRI System**

Connectome Neonatal System for neonatal brain MRI to consistently gain high image quality when examining babies up to 44 weeks gestational age at time of scan. The baby can be prepared in a rigid but light shell on a transport trolley. The close fitting 32-channel multi-coil receiver array slides over the baby and shell via a support frame. An acoustic hood protects the baby from noise. Caution: Investigational Device. Limited by United States law to investigational use.

**Time Medical System, Inc.**

**Booth 6967**

**Whole Body High Field MRI System**

Time Medical Systems will be presenting a new 2T MICA MRI system. The 2T MICA is the only whole body high field MRI system available in the world that includes integrated superconducting radiographic fluoroscopy (RF) coils. This unique high temperature superconductor (HTS) RF coil technology was developed and patented by Time Medical Systems. It offers a new approach to improved MRI performance without the high costs of chasing expensive magnet upgrades. The significant improvements in MR image quality are the result of the higher signal to noise ratio (SNR) that can be achieved with the new technology. This MRI system is currently not FDA reviewed and is not commercially available in the U.S. at this time.

**imed medizintechnik, GmbH**

**Booth 4758**

**Sale, Distribution of Siemens MRI Systems, Accessories**

imed is a German service company working exclusively with Siemens MRI. imed’s main field of activity is service, maintenance, installations and removals, coil repair, trading with preowned equipment, refurbishment and latest planning and constructing containers.

**RADIOGRAPHY**

**Giotto-IMS**

**Booth 4703**

**Breast Tomosynthesis and 3D Breast Biopsy System**

IMS has released Giotto Class, a new multifunctional system with unique features in breast screening, diagnosis and biopsy. The Giotto Class is a one-of-a-kind instrument resulting from more than 25 years of experience in mammography and designed to satisfy all the breast imaging needs. Thanks to its future design and breakthrough technology, it combines a total flexibility with extraordinary ergonomics never seen before. Giotto Class is currently the only system performing tomo-guided biopsy with the patient in prone position. It can perform FFDM, DBT and any biopsy procedure, making the daily work flow move smoothly between screening, tomosynthesis and biopsy. Giotto Class offers extraordinary image quality in breast tomosynthesis thanks to the acquisition geometries of the second generation tomosynthesis and it guarantees the best visualization of microcalcifications and fine structures.

**Faxitron**

**Booth 1900**

**Immediate Verification of Excised Breast Tissue Margins**

The Faxitron BioVision provides immediate verification of excised breast tissue margins. The BioVision raises the standard of care to new heights for patients undergoing surgical excision or biopsy procedures. Save time in the OR by X-raying the specimen intra-operatively. The image can be sent to mammography via PACS while the specimen is sent directly to pathology.

**SCHOTT North America, Inc.**

**Booth 1906**

**Large Format Fiber Optic Faceplate**

As the demands for digital imaging applications require faster speeds and higher dosage levels, SCHOTT has developed its large format fiber optic faceplate as the protective X-ray barrier for complementary metal-oxide semiconductor/charged coupled device (CMOS/CCD) detectors. With sizes up to 430 mm x 430 mm, SCHOTT’s 474ARI, and new RFG-92A glasses provide excellent X-ray absorption and contrast, while transmitting high resolution images to the detector. SCHOTT Lighting and Imaging specializes in design and manufacture of fiber optic, LED, optical and hybrid product solutions for use in medical, dental, scientific, industrial, defense and transportation applications.

**Control-X Medical, Inc.**

**Booth 2504**

**Pulmonary Radiographic System**

Designed for public and private health-care providers around the world, the Perform-X Pulmonary radiographic system offers true hospital-grade quality and dependable performance for high-volume clinics, including mobile TB screening units. FDA-approved, and made in the USA with reliable components, Perform-X Pulmonary systems are available in portable shielded cabins, containerized clinics and complete truck-based clinics for use in underserved urban and rural areas. Control-X Medical works with the leading mobile medical platform providers to provide safe, high-quality solutions tailored to local conditions and healthcare needs. With standard energy, spatial resolution, significantly improves color sensitivity and microvascular slow flow. AngloPLUS significantly improves color sensitivity and spatial resolution, resulting in the next level of microvascular imaging to visualize flows that couldn’t be seen before. Soon available on Aixplorer®, this innovation will provide highly detailed real-time information to physicians, which is key in diagnosing cancerous lesions. Lesion microvascularization and vessel flow are important indicators of a potential malignancy in areas such as breast, lymph nodes, thyroid and liver. This technique is also valuable for musculoskeletal assessments to help identify low-grade tendon inflammation. * Pending regulatory approval.

**CIVCO Medical Solutions**

**Booth 2017**

**Next Generation Ultrasound Needle Guide**

CIVCO Medical Solutions will unveil the latest innovation in needle guidance technology at RSNA 2015. A leader in the development of guidance systems for minimally invasive ultrasound procedures, CIVCO will demonstrate its next generation guided needle system designed to provide clinicians with accurate guidance and confident outcomes for today’s environment. The new guide offers advanced versatility, featuring a wider range of compatible instruments, expanded target depths to accommodate multiple clinical applications, and improved stability and functionality to meet a wide range of diagnostic and therapeutic procedures. The device has not received clearance by the U.S. Food and Drug Administration, and is targeted to launch on leading ultrasound equipment in 2016.
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Additional benefit information is available at RSNA.org/Membership/benefits.

Visit the Membership booth, Lakeside Center

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Keep radiology vital. Join the Campaign for Funding Radiology’s Future®. We are raising $17.5 million to ensure the future of radiology. Your investment will inspire promising researchers and drive innovation.

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