Signify Research's key takeaways from the European Congress of Radiology (ECR) 2018. Topics covered:

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Introduction
The European Society of Radiology’s (ESR) annual meeting, the European Congress of Radiology (ECR) 2018, was held on February 28th to March 4th in Vienna, Austria. Several of our Analysts attended and this show report presents some of their key takeaways:

- Imaging IT Vendors Target Growing Radiology Operational Workflow Market at ECR
- AI at ECR – Key Takeaways
- The Breakup in Advanced Visualisation
- Ultrasound at ECR 2018: Vendors Focus on Workflow Efficiency Rather Than Clinical Innovation

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Imaging IT Vendors Target Growing Radiology Operational Workflow Market at ECR
Written by Steve Holloway

Big modality hardware releases and artificial intelligence were centre stage at ECR 2018. For imaging IT though, the latest market developments were less obvious. While some vendors may have been saving new imaging IT products for the glitz of the HIMSS 2018 show in Las Vegas (more of this in our show write-up coming soon), there was a distinct lack of new software platforms on show. Instead, demo workstations across the exhibit halls were singing from the same tune: workflow tools and operational efficiency. Moreover, many vendors, even those with the most tainted of proprietary legacies, were actively promoting interoperability and cross-vendor collaboration, a far cry from the fiercely competitive PACS market of recent times.

Market Stagnation is Hurting the Bottom Line
This transitory shift in focus and discussion is a result of broad changes sweeping healthcare provision in Europe. Two trends are particularly prominent; firstly, healthcare networks are expanding in scale; secondly, provision of care and funding models are increasingly driven by value, both from a financial and clinical perspective. Combined, these trends have created an imaging IT market with lengthening replacement cycles, more complex implementations and aggressive price competition between vendors. For many PACS vendors, these conditions have also resulted in sluggish business performance and shrinking margins for core products. Consequently, PACS vendors have been on the hunt for new revenue growth opportunities. Vendor neutral archives (VNA) offered some short-term upside in recent years, though few were able to adequately explain the merits of VNA to customers, nor meet the expectations and promises suggested from frenzied, cross-industry marketing. Moreover, in the still departmental focused European market, the expansive capability of VNA outside of radiology came too soon for most - healthcare providers just weren't ready for enterprise imaging. The same could be argued for enterprise viewing, a rapidly commoditised market. While in principle some products have enabled cross-departmental collaboration, all too often solutions have underdelivered when it comes to integration and technical capability. Ultimately, both have also provided limited upside for PACS vendors as new growth segments.

PACS Vendors Sniff a Big New Revenue Stream
However, after a period of scrabbling for new opportunities and product development ideas, most PACS vendors are sensibly settling on a strategy to “lock-in” existing clients and ultimately, help them improve their provision of care. At the heart of this approach is a growing array of workflow and efficiency tools, building on basic capabilities that have been embedded in PACS and RIS systems for some time. While every vendor bundles these solutions differently (as upgrade versions, stand-alone products or bolt-on modules) there are essentially four main categories:
It is the first three groups that PACS vendors are today more actively targeting than before, because it is here they have most influence and opportunity. As providers of PACS and RIS systems for decades, in many geographies and different types of provider, they have extensive data and expertise in the operational processes of radiology departments. Most are now realising that installed base retention is essential for survival as tender cycles lengthen; there is no better way to retain customers than helping them to run more efficient departments. While software tools and bolt-on modules offer some new revenue growth opportunity, there is an even juicier prize for the larger more established firms – professional services.

Consulting and professional services has been steadily growing in terms of proportion of imaging IT deals in recent years. Most commonly this is due to the growing complexity of implementations in larger health networks, requiring some speciality support from vendors. However, as the push for value-based care grows, momentum for risk-sharing contracting based on outcomes will increase. For vendors, this opens a far greater addressable market. If we take an example from today, core imaging IT (PACS, RIS, equivalent enterprise imaging, VNA and image exchange) accounts for approximately $3 billion in revenues globally. Yet in comparison, the cost to healthcare providers for running radiology services from an operational, workforce and reimbursement perspective is probably twenty-fold bigger. Thus, if imaging IT vendors can work towards deals that offer even a small slice of this much bigger pie, they can extract greater profit from their own installed base, without having to make expensive entry to new markets or new product areas. The growing focus on workflow and operational tools is thus both a protectionist measure for installed base, but ultimately a push for a bigger pot of revenue too.

A Silver Lining to the Professional Services Pot of Gold

While the above may come across as an overly capitalist interpretation, there are benefits to this strategy apart from improving vendor profit margins. As healthcare provider networks are growing in terms of scale and complexity, workflow software must become increasingly interoperable and capable of working across multi-vendor environments. Vendors of proprietary systems will need to work harder on interoperability to gain access to this larger revenue stream, also likely pushing a higher maturity of VNA solution as a foundation. Secondly, healthcare providers will be more able to hold vendors to account, as the penalties for poor software, interoperability or service will be baked in to long-term contracts. Thirdly, this transition should drive continued improvements in how radiology departments in Europe are run, creating a more cost-effective, diagnostically accurate and safer system for patients.

In conclusion, despite the commercial opportunity for vendors in driving the shift towards operational and workflow efficiency, this is no bad thing for providers and patients either – as the running of radiology services should markedly improve. Additionally, no single vendor has all the capabilities in-house today to support the growing role of radiology and imaging within expanding health provider networks. This is forcing imaging IT vendors to get their act together on interoperability and partner more, creating a less proprietary market. We are just at the cusp of this transition and it will take

The Four Main Categories:

**Operational Workflow** – software and tools that have a broader operational reach to users across the radiology department, as well as other clinical staff and healthcare administrators. Examples include: case load balancing, order entry integration, modality fleet management, connectivity and integration support.

**Practice Management** – specific software and tools that support analysis of the working practices of a radiology department and support driving improvements in performance, including regulatory compliance, staff quality audit, quality and outcome measurement tools, dose monitoring.

**Radiologist Workflow Tools** – these tools help improve the working practices and efficiency of radiologists using the system, without having a direct diagnostic influence. Examples include smart and adaptive protocols, rule-engines, auto-triage and more structured reporting support.

**Diagnostic Tools** – most commonly provided in PACS or Advanced Visualisation, these are tools and software that enable radiologists to perform their primary function - making a diagnosis. Examples include automated quantification and decision support tools, advanced visualisation, adaptive hanging protocols and priors pre-fetching.
many years for providers to adopt these new solutions, as well as evolve their relationships with imaging vendors towards more managed service, risk-sharing contracts. However, for once, it seems that this will be a shift in market direction that could provide a win-win for both healthcare providers and vendors – assuming the right balance of operational gains for providers and improved balance sheets for vendors can be found.

About the Author
Steve has 8 years’ experience in healthcare technology market intelligence, having served as Senior Analyst at InMedica (part of IMS Research) and Associate Director of IHS Inc.’s Healthcare Technology research practice. Steve’s areas of market expertise include Healthcare IT and Medical Imaging.

AI at ECR – Key Takeaways
Written by Simon Harris

For the first time at ECR there was a dedicated section of the Expo for AI, the Artificial Intelligence Future Lab, with seven exhibitors and a mini-theatre for presentations. There were also a handful of medical imaging AI companies dotted around the main exhibition halls and most of the major vendors found an angle to add AI to their booths. Although there were no major AI-related vendor announcements at ECR, it was evident from walking the exhibition floor that AI continues to make in-roads into medical imaging and the pace of technology commercialisation is accelerating. Some of the main themes are discussed below.

PACS Integration Gets Tighter
For AI to become mainstream in medical imaging, the tools need to be fully integrated into the radiologists’ existing workflow. Most generalist radiologists will prefer to access the results from AI algorithms from within their diagnostic viewer, which in most cases today is a PACS. Coming out of PACS to a dedicated AI platform adds an extra step in the process and hence additional time; particularly hard to justify for AI platforms with a narrow offering of algorithms. An exception could be targeted use-cases, e.g. breast imaging, where radiologists may already be used to working with a computer-aided detection (CADe) workstation. Radiologists who already use a dedicated advanced visualisation (AV) platform may be comfortable with accessing certain AI tools, such as quantitative imaging tools, in an AV environment, although some convergence of AV and PACS is occurring and over time we expect to see more AV tools made available in PACS. As the industry transitions to enterprise imaging and universal viewers, AI developers need to forge partnerships with the leading imaging IT vendors to best position themselves for future growth. Over the coming years, we expect to see PACS, AV and other clinical IT platforms, such as oncology, pathology, breast imaging, cardiology, dermatology and orthopaedics, absorbed into enterprise platforms, giving AI developers access to a richer set of data to work with.

Forming partnerships with PACS vendors can enable tighter integration of AI tools for an enhanced user experience. The AI results can be directly overlaid on the images and the radiologist can make edits and annotations. A tight PACS integration can also give access to the worklist, so that cases can be prioritised in the reading list based on the initial AI findings.

The Dutch company Aidence is taking this approach and has integrated its Veye Chest Detection solution with PACS from Agfa and Sectra, negating the need for a specific AI user interface. Veye Chest Detection automatically detects and marks pulmonary nodules on chest CT scans. Aidence received CE Mark Class 2a for Veye Chest Detection in December 2017. Aidence is also developing a solution for automatic quantification of nodules, such as volume, composition and axial diameters, as well as the ability to automatically track volume changes over time, and plans to release these additional functionalities in the second half of 2018.

Aidoc has taken a similar approach and fully integrates its AI solution in the PACS workflow, without a dedicated AI platform. Whereas most AI solutions are built for
specific pathologies, Aidoc takes a different approach and analyses complete body areas to detect potential abnormalities. The software can then prioritise cases in the worklist. Aidoc received CE Mark for its head and cervical spine solution in November 2017 and plans to release two additional solutions for abdomen and chest applications later this year. Aidoc is targeting acute findings only and does not provide quantification. The company has a co-marketing agreement with Agfa and is seeking partnerships with other PACS vendors.

The benefit for PACS vendors in forming partnerships with medical imaging AI developers is two-fold. Firstly, it represents an additional revenue stream, albeit a relatively small one in the short-term. Secondly, they can offer their customers a wider range of AI tools and be faster to market than if they rely on in-house development, maintaining their reputation for technology innovation and to obtain a competitive edge. Being seen as a technology innovator is important for winning contract renewals and maintaining market share. It is also a light touch way to bring new AI tools to market and test customer interest, before investing in in-house development or making an acquisition.

**AI Marketplaces Making Progress**

As we mentioned in our RSNA show report (AI at RSNA – What a Difference a Year Makes), online AI marketplaces provide algorithm developers with workflow integration and a route to market. EnvoyAI used ECR for its European launch and now has 19 developers with 46 products on its platform. EnvoyAI has a distribution agreement with TeraRecon to sell and market the EnvoyAI platform and it plans to add more distribution partners this year. Shortly after ECR, TeraRecon, EnvoyAI and Ambra Health announced a partnership, whereby health providers can access the EnvoyAI Exchange from Ambra’s image exchange workflow. EnvoyAI plans to go live with its first hospital customers in the coming weeks.

Siemens also showed its Digital Ecosystem marketplace at ECR 2018. It was first announced at HIMSS 2017 with a handful of partners on board and Siemens has added several new partners over the last year. The current list of partners now includes solutions for image analysis (AMRA, Arterys, Circle Cardiovascular Imaging, Combinostics, HeartFlow, Mint Medical, Pie Medical Imaging, Precision Image Analysis, SyntheticMR), surgical (ExplORer Surgical, mediCAD), teleradiology (Second Opinions, TMC) and operational and business Analytics (Cranberry Peak, Stroll Health, Viewics, Dell-EMC).

During ECR, Philips announced the launch of an AI development environment, HealthSuite Insights, which includes the Insights Marketplace, an ecosystem of AI tools from Philips and third parties (from late 2018). We expect more modality and imaging IT vendors will launch AI marketplaces this year.

**Imaging Biomarkers Becoming More Prolific**

Three of the seven exhibitors in the Artificial Intelligence Future Lab were quantitative imaging specialists; namely, icometrix, Quantib and Quibim. There were also quantitative imaging solutions on show from CorTechs Labs, Medis and Mint Medical in other parts of the Expo, as well as quantitative post-processing software from the leading advanced visualisation and modality vendors. Of these, the Quantib and Quibim solutions use deep learning technology, whilst the others use traditional image processing techniques.

icometrix specialises in neurology and provides MRI imaging biomarkers for the diagnosis of neurodegenerative diseases, such as Alzheimer’s and multiple sclerosis, and traumatic brain injury. Quantib is also currently focused on neurology and provides software for automatic segmentation and quantification of brain tissue to diagnose the presence of atrophy related to neurogenerative disease. Quantib recently secured 4.5 million euros of funding and is now developing quantitative imaging solutions for prostate, liver and orthopaedics applications. Quibim offers one of the broadest portfolios of imaging biomarkers, covering abdomen, lung, musculoskeletal, neurology and oncology.

One of the barriers preventing the more widespread use and acceptance of imaging biomarkers is a lack of trust from clinicians in the accuracy and repeatability (precision) of quantification software. Typically, the accuracy will be higher than can be achieved manually, but there can be considerable variability, anecdotally quoted at around 20%-30%, between the results from different vendors that offer the same biomarker. To address this, Quibim has made the validation process and clinical test results for its imaging biomarkers available on its website. A bold move, but one that should help to strengthen the perception of quantitative imaging.

**More Than Image Analysis**

Whilst many of the medical imaging AI start-ups are focused on image analysis, imaging IT and modality vendors are applying AI to a broader range of imaging applications, including pre-, intra- and post-scan. For
example, in pre-scan, AI can be used to ensure the patient is correctly positioned and the optimal scan protocol is used. During the scan, AI can detect additional abnormalities than the initial target and optimise the scan for incidental findings, potentially eliminating the need for additional scans. Post-scan, in addition to the usual post processing applications, such as detection, segmentation and quantification, AI can be applied for practice management (e.g. quality and outcome assessment tools) and radiologist workflow, such as adaptive hanging protocols, automatic retrieval of priors, etc. An additional example is the use of deep learning to improve the image quality of low-dose CT images.

Many of the modality and imaging IT vendors are initially focussing their in-house AI developments on practice management and workflow, with clinical applications seen as a longer-term play. Partnering with AI specialists is an effective way of establishing an initial offering of clinical AI solutions, so as not to be seen as a laggard. Since radiologist workflow is essentially ingrained in the PACS, it makes sense that the imaging IT vendors want to control the development of AI-powered workflow tools. Moreover, there are fewer challenges with bringing these solutions to market, such as fewer regulatory requirements.

**Conclusion**

At this year’s ECR it was clear that AI is rapidly extending its reach in medical imaging, be it the tighter integration in PACS, the growing number of online AI marketplaces, the increasing availability of regulatory cleared products or the increasing AI activities of the modality vendors. However, AI didn’t seem to generate the same buzz and excitement as it did at RSNA. Perhaps this is a positive sign that AI is now descending the peak of the hype cycle. Or perhaps it’s a sign that European radiologists aren’t yet fully embracing AI? In the US, several luminaries in the radiology community have championed the use of AI. Maybe Europe needs its own medical imaging AI champions.

**About the Author**

Simon has 23 years of experience in global technology market intelligence, having served as Executive Vice President at IMS Research and Senior Research Director for IHS Inc.’s Technology division. Whilst at IMS Research, he established the InMedica brand of market intelligence for the medical devices industry. Simon is responsible for Signify Research’s coverage of the global Medical Imaging market and wrote the 2017 edition of “Machine Learning in Medical Imaging”.

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**The Breakup in Advanced Visualisation**

Written by Ulrik Kristensen, PhD

Healthcare IT is becoming increasingly complex. In order to keep up with current and future requirements, Advanced Visualisation vendors are organising themselves into two different categories, each specialising to try and stay ahead of competition. ECR this year offered a glimpse of this growing split; some vendors are focusing on interoperability and integration to become preferred platform vendors, while others are aiming to provide superior image analysis and visualisation software to create the AV tools radiologists would desire and demand. What used to be one complete AV solution from one vendor, may soon become two separate products with companies working together in partnerships to offer a pick and choose selection from the leading AV tools vendors.

**Why is AV Breaking in Two?**

A significant proportion of healthcare providers are moving away from the standalone PACS and workstation setup with a separate and isolated system used by the radiologists or technologists only, and towards an enterprise-wide imaging solution, which over time could enable EMR integration, business analytics, genomic data integration, and AI workflow and analysis tools. This integration with the wider healthcare IT requires specialisation and a single point of contact for consultative implementation and customisation. Most AV vendors do not have the capabilities or wish to take on these additional tasks, unless they also have sizeable PACS and enterprise imaging businesses, and instead focus on their core strength; providing image intelligence for diagnostics.

When it comes to image analysis, tools are becoming increasingly sophisticated and specialised into all the different applications, functions and tissues. AV tools are increasingly getting automatic segmentation and measurements integrated into heart, lung and neurology applications, AI for detection of disease-related...
biomarkers, and AI brain volumetric analysis for neurodegenerative diseases. The prospects of virtual and mixed reality for interventional radiology, cardiology and oncology adds another layer of complexity when it comes to functionalities and integration with current viewing solutions. The widening of clinical demand for AV, together with the increased integration requirements for platforms, has therefore made it harder to have a complete solution and enter the market independently. Consequently, companies increasingly focus on either providing the best platform or the best individual tools, and enter partnerships to get AV tools to the market or improve the clinical capabilities of an AV platform.

Risk of Being Caught in the Middle
When it comes to “owning” the platform space, the big modality vendors have an obvious advantage since an AV platform is often provided as part of the modality deal, such as CT or MRI. This means it will be very hard for competitor AV specialists to sell an alternative platform to the provider. Moreover, enterprise PACS has also proliferated, adding further consideration in terms of integration across a broader clinical reach. AV vendors continuing to offer their products as a “platform-tools” package therefore have substantial barriers to entry due to brand loyalty and high migration costs, as the provider is often using a platform from their modality or PACS vendor. Although the challenging specialist AV tools may be superior, the provider may not wish to give up the existing platform and user interface, and the deal falls through. A potential sale of a superior AV tool could therefore easily be unsuccessful, if it is tied to a platform which the provider doesn't need, or if the specialist tools being offered do not easily integrate into the incumbent platform.

How to Succeed as an AV Platform Vendor or AV Tool Vendor
With the industry breaking in two, one needs to not only determine what the core capabilities of the company are with regards to diagnostic tools and platform development, but to also consider the current platform installed base. Should you be a modality vendor with a large AV platform market share, and the capacity to over time develop a fully integrated system with AI workflow, analytics and pre-analysis tools, EHR and genomic data integration, then owning the platform space will provide long-term market success. However, sustained focus on seamless integration of data and software for the continuum of care, provider management and PHM is essential to this strategy. To obtain seamless integration of AV tools, a framework should be established for AV tool partners to streamline user interface and functionalities. For vendors with core capabilities in developing diagnostic image analysis tools, partnerships with platform vendors for getting your tools to market will be critical. In order to win in this space, focus on creating the best diagnostic tools on the market, encourage pull strategy by letting your tools be known to the providers and radiologists, develop your tools in a modular way to easily fit with different platforms from the main platform vendors, and partner with platform vendors early in development for customising directly into their platform framework.

Traditional AV vendors with AV platform and tools, but no modalities, need to demonstrate a clearly superior product compared to the modality and platform vendors. Adding a high number of tools like the big modality vendors may not be enough. To avoid being caught in the middle, vendors will need something that appeals to both the clinical and the financial buying drivers of the healthcare provider; a differentiated product with superior integration, intuitive and sleek user interface, simplicity and automation for improved efficiency to reduce healthcare costs. And even then, it might require exceptional commercial ingenuity and marketing skills to make it profitable.

Market Breakup Will Bring Competitors Closer Together
So, will the division between tools and platforms continue to grow? It most likely will. Competitors are increasingly working together in partnerships to provide the best solution for the healthcare provider, offering individual tools on a competitor platform despite having a platform of their own. Startups are getting their tools to the market through partnerships without intending to build a complete portfolio or platform, but solely because they specialise in providing a superior tool that can be easily integrated into other platforms on PACS or enterprise solutions. We may therefore start to see the ecosystem of clinical specialist apps developing in a systematic way, starting with a pre-set framework and interface for each platform, and accessed by the healthcare provider via the main platform from another vendor. This will also apply not only for smaller startups, but also for larger AV vendors wishing to get their tools to market in new geographic regions, especially those undergoing strong provider and competitive consolidation.

About The Author
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Ultrasound at ECR 2018: Vendors Focus on Workflow Efficiency Rather Than Clinical Innovation
Written by Simon Harris

There were several ultrasound product launches from the major vendors at ECR 2018, with most prioritising workflow efficiency and image quality over advanced clinical features. Large displays, faster boot times, manoeuvrability and improved ergonomics were common across the product launches, with vendors striving to make ultrasound faster, more precise and more affordable. This insight summarises the products announced alongside our views on their likely impact on the market.

GE Unveils Logiq E10
As the Logiq E9 approaches its 10th birthday, with global sales now topping 20,000 units, GE announced its latest premium ultrasound platform, the Logiq E10. GE claims that the NVIDIA GPU hardware architecture gives 48 times the data throughput and 10 times the processing power of previous systems. In addition to powering cSound, GE’s software beamformer image reconstruction platform, the additional processing power will be used for new, as yet unannounced, AI-based tools. In a first for GE, the E10 eliminates the need for focal zones as the entire image remains in focus throughout an exam. The E10 on display at ECR was kept at a distance with no clinical images on display, suggesting that it may not be fully ready for commercial launch.

GE and Canon are vying for top spot in the radiology ultrasound market and the E10 will face stiff competition from the Apio i-series. GE is betting big on AI, not just for ultrasound but across its imaging modality portfolio and has invested heavily to establish an in-house AI capability. It has also fostered AI development partnerships with leading health providers (Massachusetts General Hospital, Brigham & Women’s Hospital, University of Pittsburgh Medical Center, etc.) and is establishing an ecosystem of third party algorithm developers on Health Cloud (currently includes Arterys, imbio and MedyMatch, but none of these are developing AI tools specifically for ultrasound). In this respect it may have a competitive edge over Canon; however, it remains to be seen how quickly GE can bring AI tools to market and how much value they will have to radiologists.

Siemens launches Acuson Juniper
The Acuson Juniper is a mid-to-high end ultrasound system for shared services applications. Marketed under the tagline “Everything you need, nothing you don’t”, some of the features include a 21.5-inch touch display, six transducer ports and 5 second boot time. Juniper has received CE Mark and FDA 510(k) clearance and will start shipping after ECR. It will likely replace the X600 and X700.

Juniper is targeted at one of the fastest growing segments of the ultrasound market (mid-range systems for shared services), albeit an increasingly competitive one. With other vendors adding advanced functionalities to their mid-to-high end systems, the stripped back Juniper may get lost in the crowd. Moreover, it will do little to strengthen Siemens’ position in the premium radiology market, where it has lost considerable ground in recent years. Siemens still needs a “best-in-class” premium platform to compete effectively, particularly with the imminent release of Logiq E10.

Canon Expands its Mid-Range Portfolio and Enters Tablet Ultrasound Market
Canon made three product announcements at ECR - two new series of mid-range ultrasound systems and a new tablet ultrasound system (5 new systems in total). The Xario g-series (Xario 200g and Xario 100g) of mid-range cart systems is designed to be maneuvered into tight spaces, such as the patient’s bedside, small examination rooms, operating theatres or emergency rooms. It offers up to 8 hours of battery life in full operational mode and has a 2 seconds boot-up time. The Aplio a-series builds upon the Aplio i-series architecture and features many of the same advanced clinical applications, but is defeatured to enable a lower price point. The a-series currently
comprises the Aplio a450 and Aplio a550, the latter is the higher-end system, while Aplio a450 is a more compact unit. Viamo sv7 is a 12-inch tablet ultrasound system.

The slimline form factor of the g-series will enable Canon to more aggressively target point of care applications, where it currently has a relatively small market share in comparison to its strong positions in the radiology, and to a lesser extent OB/GYN, markets. The a-series is primarily targeted at shared service applications and is essentially an extension to the more feature reach i-series, but it will need to be carefully positioned to avoid cannibalising sales of the entry level i-series products, such as the i600.

The Viamo sv7 marks Canon’s entry into the tablet ultrasound market. The current version has a wired probe and Canon plans to add a wireless probe in the near future. The wireless version will give Canon an edge over the current batch of tablet ultrasound products which are all wired solutions (e.g. GE’s Venue 40 and 50, SonoSite’s iViz, Samsung’s UGEO PT60A, etc.). The Acuson Freestyle from Siemens is the only other large screen wireless systems from the major manufacturers, but it lacks a touchscreen interface. Although the Viamo sv7 looks well positioned for the tablet ultrasound market, this segment is likely to come under increasing pressure from lower cost, ultra-portable wireless handhelds, particularly as the image quality of handhelds continues to improve. Canon may have missed a trick by releasing a tablet rather than a handheld solution.

Mindray Accelerates its Evolution From Entry Level to Innovator

Mindray’s new X-Insight platform, which is currently available on the DC-80, DC-80A, DC-70 and DC-60, is based on three pillars:

1. Immediate image clarity, achieved by a new GPU powered image processing engine (X-Engine), single crystal volume, convex and phased array transducers and ComboWave linear transducer technology, which uses a new type of composite piezoelectric material to optimise the acoustic spectrum and reduce acoustic impedance.

2. All-Smart Exams – more intelligence to improve scanning efficiency and more precise.

3. User comfort – large (21.5”/23.8”) full HD monitor, large (13.3”) touch screen and floating dual wing monitor arm.

The release of X-Insight strengthens Mindray’s growing reputation as a technically advanced global player, as it builds on its strong position in the value segment and further penetrates the mid-to-high end of the market. The Resona series is also set for a major upgrade this year. Whilst Mindray is yet to be considered a true innovator, the combination of advanced technology, competent image quality and aggressive pricing will continue to challenge the established market leaders.

Hitachi Releases a ‘Smart’ Transducer

Hitachi Medical Systems announced “ScanSync”, which enables the operator to freeze, store and unfreeze images by auto detecting the transducer movement. For example, lifting the transducer away from the patient freezes the image. By reducing the need to use the control panel for these tasks, ScanSync could streamline workflow and it is well suited to applications where the operator cannot easily access the control panel, such as lower limb imaging. ScanSync is currently only available on ARIETTA Prologue.

Conclusion

Although none of the new ultrasound product announcements at ECR can be considered revolutionary, the new platform releases by GE and Mindray point to the direction the ultrasound market is heading. More processing power from GPU architectures is enabling manufacturers to further improve their image processing technologies and at the same time create processing headroom to include advanced, AI-based tools, as they become available. AI will increasingly be applied to ultrasound devices, from automated system set-up and configuration, to workflow features (think Hitachi’s ScanSync), to image manipulation and interpretation. In addition to making ultrasound faster and more accurate, AI will help to expand the use of ultrasound by making it less operator dependent and by simplifying advanced clinical exams, such as multi-modality imaging. Manufacturers must invest and plan for AI now, or risk getting left behind.

About the Author

Simon has 23 years of experience in global technology market intelligence, having served as Executive Vice President at IMS Research and Senior Research Director for IHS Inc’s Technology division. Whilst at IMS Research, he established the InMedica brand of market intelligence for the medical devices industry. Simon is responsible for Signify Research’s coverage of the global Medical Imaging market and wrote the 2017 edition of “World Market for Ultrasound Equipment”. 
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- Machine Learning in Medical Imaging - World - 2017
- Clinical Content Management Intelligence Service - 2017
- Digital Pathology & New Clinical IT Applications - 2017
- Imaging IT & Archiving Management IT - World - 2017
- Advanced Visualisation and Viewing IT - World - 2017
- Ultrasound Equipment - World - 2017

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