GE Healthcare Expands AI, Digital and Imaging Solutions at #RSNA20, Helping Shape Future of Healthcare in the COVID Era

November 29, 2020

CHICAGO – 29 NOVEMBER 2020 – GE Healthcare today unveiled a slate of new intelligently efficient solutions to help clinicians solve today's two-part challenge of delivering high quality care while managing greater capacity and workflow issues, exacerbated by the impact of COVID-19. Building on continuing investments in innovation and digital health momentum, GE Healthcare is expanding its AI offerings and Edison ecosystem, and also introducing breakthrough imaging innovations that will help shape the future of healthcare.

"Covid-19 has demonstrated the need for an adaptable and digitized healthcare system that empowers clinicians with next-generation tools, and has accelerated changes that would otherwise have taken years to adopt," said Kieran Murphy, president & CEO, GE Healthcare. "At GE Healthcare, we remain committed to driving innovation to achieve precision health and improve lives. This includes continued investment in our Edison intelligence portfolio, and also development of new imaging technologies to modernize standards of care."

At this year's virtual #RSNA20, GE Healthcare is highlighting several new solutions that empower clinicians with future-looking technologies to drive efficiencies and improve patient outcomes, and address challenges related to COVID-19.

The Future is Now: *raising the standard of care with intelligent efficiency*

In an era when care is largely focused on the acute effects of COVID-19, healthcare's challenges of cost, quality and access and provider pressure to do more with less remains. Add physician burnout - of which 64% of surveyed physicians said has intensified during the pandemic[i] - and the need for efficiency has never been greater. "Like most heath systems, we were looking for system-wide efficiencies even before the pandemic hit," said Laurie Sebastiano, MD, Section Chief of Ultrasound, St Luke's University Health Network. "By working with GE Healthcare to standardize our fleet of ultrasound systems across our 12-hospital network, we will drive greater efficiency and consistency to our ultrasound users in the Vascular, Radiology and Echocardiography departments. Our new ultrasound equipment will help the technologist be more efficient because these machines are designed to streamline their activity and reduce clicks. Also, it will help the radiologist by bringing in some of the numbers that we routinely dictate right into our reports."

- **Photon counting CT with Prismatic Sensors AB's patented Deep Silicon detectors** has the potential to further expand the clinical capabilities of traditional CT when fully developed, including the visualization of minute details of organ structures, improved tissue characterization, more accurate material density measurement (or quantification) and lower radiation dose[ii]. GE Healthcare's acquisition of Prismatic Sensors signifies the company's continued investment in photon counting CT technology, which has the potential to significantly increase clinical performance for oncology, cardiology, neurology, and many other clinical CT applicationsii.
- **TrueFidelity for GSI**[iii] has the potential to enhance traditional GSI images with reduced image noise[iv], improved contrast noise ratio[v] and low contrast detectability[vi] as well as preferred noise texture[vii]. In turn, the technology has the potential to enhance inherent GSI diagnostic benefits, such as lesion detection, characterization and artifact reduction.
- **Discovery MI Gen 2** is the is the only PET/CT system that brings together the sensitivity[viii] of digital detection with the innovative reconstruction technology available in CT: Deep Learning Image Reconstruction for TrueFidelity CT Images. Using a dedicated deep neural network to generate TrueFidelity CT Images, Discovery MI Gen 2 has the potential to improve reading confidence in a wide range of clinical applications such as head, whole body and cardiovascular, for patients of all ages.
- **AIR Recon DL** is the MR industry's first US FDA-cleared, deep learning-based image reconstruction technology that works across all anatomies. Available as an upgrade to installed base systems and forward production across all 1.5T and 3.0T scanners[ix], AIR Recon DL can help providers process the COVID-19 backlog faster without compromising image quality. Early adopters are seeing between 30-50 percent exam time reductions with AIR Recon DL, with higher signal-to-noise ratios (SNR) and higher resolution.
- **Allia IGS 7**[x] is a completely redesigned image guided therapy suite designed to be an assistant focusing on ergonomics, ease-of-use and workflow efficiency. With just one click on the personalized interfaces, the users can access their essential functions to make it their room. Similarly, with the redesigned C-arm making the controls more accessible, the assistant will enable an optimized ergonomic setup for the user's clinical needs, even in complex working positions at the head, neck or left side.
- **LOGIQ E10 Series** are high-end radiology ultrasound systems that harness artificial intelligence (AI) technology to drive workflow productivity. This series includes the new LOGIQ E10 leadership ultrasound system for radiology with a full suite of advanced imaging tools and the new LOGIQ E10s ultrasound with multi-purpose capabilities in a scalable configuration. Built on the cutting-edge A to A digital platform, and using next generation cSound Architecture to automatically deliver images of exceptional uniformity, the LOGIQ E10 Series provides impressive imaging and full-featured versatility so clinicians can scan and care for a wide range of patients across a broad spectrum of conditions with speed and precision.

- **OEC 3D**[xi] is a new C-arm designed to deliver 3D and 2D images presenting a large field of view to surgeons, integrating seamlessly into existing surgical workflows for enhanced surgical imaging precision and efficiency. OEC 3D features a 3D image reconstruction engine designed to present surgeons with high-resolution volume reconstructed CT-like images enabling surgeons to visualize exactly where they are operating in 3D for procedures where precision matters.
- **Command Centers** empower every care team with their own real-time personal command center to optimize care progression, protocol compliance, staffing and so much more. GE's Command Center software provides intuitive actionable information created from AI applied to integrated data from Electronic Medical Record modules and other systems.

Pandemic Disruption: *tackling COVID-19 with trailblazing technologies*

Whether defining the disease, determining a diagnosis, or observing the outcomes, COVID-19 is a disease of uncertainties. While the unknowns are still being studied and assessed, the need for health systems and healthcare providers to tackle and treat COVID-19 is both urgent and ubiquitous. Trailblazing technologies that launched prior to the pandemic, many of which are AI-powered, have proven to help the medical community better understand, triage, treat and manage COVID-19 and some of the resulting long-term health effects of the virus. "In the present times, AI is not a luxury, but a necessity for the high-quality patient care we're providing in the hospital," said Amit Gupta, MD, Modality Director of Diagnostic Radiography, University Hospitals Cleveland Medical Center. "As we operate with limited staff, scarce resources, and relying on residents' support whenever we can, the team must make split second decisions in emergency situations. Critical Care Suite, the on-device AI solution that enables triage of critical conditions such as pneumothorax, helps our residents prioritize these types of patients."

Here are a few examples of trailblazing technologies that are being used to tackle COVID-19:

- **Critical Care Suite 2.0**[xii] features a new AI algorithm to help clinicians assess Endotracheal Tube (ETT) placements, a necessary and important step when ventilating critically ill COVID-19 patients. The AI solution is one of five included in GE Healthcare's Critical Care Suite 2.0, an industry-first collection of AI algorithms embedded on a mobile x-ray device for automated measurements, case prioritization and quality control that can help improve efficiency on the front lines.
- **VenueGo** features an adaptable take-anywhere design and powerful AI-enabled auto tools that simplify complicated workflows to help the clinician care for patients at the point of care. From fast and automated assessments, like the AI-enhanced Auto B-line Tool that quickly calculates the overall lung score for triage decisions, to the fluid management and monitoring of pulmonary conditions including those associated with COVID-19[xiii], Venue Go can help support the patient across all point of care areas and clinical spaces.
- **CT in a Box**[xiv] is an all-in-one portable CT solution available to pop up scan centers and hospitals to enable fast CT deployment using safe distancing measures and helping to minimize contact with potential COVID-19 cases. With more than 100 installed throughout the worldxiv, GE Healthcare's CT in a Box solution is helping to provide accelerated access to CT imaging in situations requiring increased CT scans[xv].
- **Vscan Extend** handheld, pocket-sized ultrasound system empowers healthcare professionals to make focused assessments and accelerate treatment decisions at the point of care. In the COVID-19 environment, Vscan Extend can help manage patients with respiratory conditions offering a dual-probe system that is simple to use, easy cleanability and portability, and on-device applications that support lung and cardiovascular ultrasound exams.
- **Thoracic Care Suite**[xvi] harnesses the power of eight artificial intelligence (AI) algorithms from Lunit Insight CXR to help alleviate clinical strain due to COVID-19. The AI suite quickly analyzes chest x-ray findings and flags abnormalities to radiologists for review, including pneumonia, which may be indicative of COVID-19[xvii] as well as tuberculosis, lung nodules, and other radiological findings.
- The new **Ultra Edition release of Vivid products** includes AI-based features which enable clinicians to quickly acquire more repeatable exams consistently and extends Vivid's well-established strain-based functional assessment to the left atrium and right ventricle. Evidence of right heart dysfunction—especially right ventricular longitudinal strain on two-dimensional speckle-tracking echocardiography—is tightly linked to higher mortality among patients with COVID-19. Strain imaging is a particularly useful tool for gauging myocardial function in this setting.
- The **Mural Virtual Care Solution** COVID-19 offering integrates data from multiple systems and devices into a single pane of glass to provide a real time (requires real time HL7 data feed from clinical devices), comprehensive view of patients' status and to give hospitals the ability to extend clinical capabilities and resources by allowing visibility to at-risk and ventilated patients while minimizing exposure to staff.
- **CARESCAPE R860** is intuitively organized with workspace views so parameters and measurements, such as respiratory rate and tidal volume, as well as therapy controls are not buried in menus. Additionally, GE Healthcare has provided ICU Ventilation User Resources to help clinicians respond to surges in ventilated COVID-19 patients and focus on delivering patient care.
- **Diagnostic Cardiology** helps with the assessment of diagnostic ECG, which is critical in COVID-19 patients due to an increased incidence of arrhythmias and prolonged QT. Recognition of ST-elevated acute myocardial infarction needs to be done in the presence of a variety complicating factors including myocarditis, positive troponins and electrolyte abnormalities. See these clinical topics covered in Diagnostic ECG Clinical Insights.
- **Digital Expert** is a remote technology training tool that can be used by healthcare providers to help navigate the challenges associated with a global pandemic by enabling virtual, live, face-to-face instructor-led interactive clinical training

sessions using a mobile tablet. The technology provides individual users and entire departments with convenient access to training, enabling them to use equipment when it's needed. Since COVID-19, Digital Expert has contributed to a 40 percent increase in calls made between customers and GE remote applications specialists and a 50 percent increase in the number of support hours provided to customers[xviii]. Digital Expert is currently available with Ultrasound, MR, X-Ray and Nuclear Workstation applications.

For more information on GE Healthcare and its intelligently efficient solutions, visit the company's virtual RSNA booth or gehealthcare.com.

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About GE Healthcare

GE Healthcare is the $16.7 billion healthcare business of GE (NYSE: GE). As a leading global medical technology and digital solutions innovator, GE Healthcare enables clinicians to make faster, more informed decisions through intelligent devices, data analytics, applications and services, supported by its Edison intelligence platform. With over 100 years of healthcare industry experience and around 50,000 employees globally, the company operates at the center of an ecosystem working toward precision health, digitizing healthcare, helping drive productivity and improve outcomes for patients, providers, health systems and researchers around the world.

Follow us on Facebook, LinkedIn, Twitter, Instagram and Insights for the latest news, or visit our website www.gehealthcare.com for more information

[i] Physician Income Drops, Burnout Spikes Globally in Pandemic, Medscape Medical News, Marcia Frellick, September 11, 2020.

[ii] Technology in development. Not for sale. Not cleared or approved by the U.S. FDA or any other global regulator for commercial availability.

[iii] TrueFidelity for GSI is 510k pending at FDA, not available sale in all regions.

[iv] Demonstrated in testing using the uniform section of the Catphan®600 with the CTP579 oval body annulus comparing pixel standard deviation in images reconstructed from the same raw data, at 0.625mm with DLIR-H and ASiR-V 50%.

[v] Demonstrated in testing using images of the CT ACR 464 Phantom (Gammex) and its 25 mm low contrast cylinder reconstructed from the same raw data with DLIR-L, DILR-M, and DLIR-H and ASiR-V 50%.

[vi] Evaluated using the body MITA CT IQ Low Contrast Phantom (CCT189, the Phantom Laboratory) with the CTP579 oval body annulus and a model observer with images reconstructed from the same raw data with DLIR-H and ASiR-V 50%.

[vii] As demonstrated in a clinical evaluation consisting of 40 cases and 5 physicians, where each case was reconstructed with both DLIR for GSI and ASiR-V and evaluated by 3of the physicians. In 88% of the reads, DLIR for GSI's noise texture was rated better than ASiR-V's.

[viii] Discovery MI Gen 2 has the highest NEMA sensitivity in its class in the market, comparing with common PET/CT systems with same or similar AFOV (based on IMV's Medical Information Division's 2019 report as the manufacturers representing more than 90% of the US Installed Base).

[ix] AIR Recon DL is not yet CE marked for 1.5T. Product may not be available in all countries and regions and cannot be placed on the market or put into service until it has been made to comply with all required regulatory authorizations.

[x] Allia IGS 7 is not yet CE marked. Product may not be available in all countries and regions and cannot be placed on the market or put into service until it has been made to comply with all required regulatory authorizations.

[xi] 510(k) pending at the FDA. Not for sale. Not cleared or approved by other global regulators for commercial availability.

[xii] Critical Care Suite 2.0 is only available in the United States. Not cleared or approved by the FDA. Distributed in accordance with FDA imaging guidance regarding COVID-19 public health emergency.

[xiii] Accessed on 11/19/20: https://www.hopkinsmedicine.org/health/conditions-and-diseases/coronavirus/what-coronavirus-does-to-the-lungs.

[xiv] Available in select countries. Not available in all regions.

[xv] Rodgers, A et al. "The World Health Report 2002 Reducing Risks, Promoting Healthy Life." *World Health Report*, World Health Organization, 2002, https://www.who.int/whr/2002/en/whr02_en.pdf?ua=1.

[xvi] Available in select CE Mark countries. Not available in all regions.

[xvii] Provisional Death Counts for Coronavirus Disease (COVID-19). Published June 12, 2020. Accessed June 12, 2020, from https://www.cdc.gov/nchs/nvss/vsrr/covid19/index.htm.

[xviii] GE Healthcare Data on File.

For media inquiries, please contact:

Margaret Steinhafel
GE Healthcare
+1 608 381 8829
Margaret.Steinhafel@ge.com