NEWS BRIEF

Reinventing X-ray to be one of the most intuitive and technologically powerful imaging tools on the frontlines of patient care

X-ray is the oldest form of imaging and a valuable tool on the frontlines of patient care, accounting for over 60 percent of all imaging exams.[1] As a result, X-ray technologists, radiologists and radiology departments are required to manage an ever-increasing caseload, while facing the day-to-day challenges from variability in patient care, positioning and exam set up.

To address the needs of those on the frontlines today, GE Healthcare continues to reinvent X-ray to be one of the most intuitive and technologically powerful imaging tools ready to withstand today and tomorrow's most challenging hospital conditions.

GE Healthcare's most advanced fixed X-ray system yet

Ahead of #RSNA22, GE Healthcare introduced its most advanced fixed X-ray system yet, the **Definium™ 656 HD**. This latest generation of the overhead tube suspension (OTS) system features the highest levels of motorization, automation, assistive intelligence and advanced applications with the fastest movement and highest weight capacity in GE Healthcare's fixed X-ray portfolio. The system acts like a 'personal assistant' by delivering consistent, highly automated, efficient exams that impart clinical confidence while simplifying workflow, improving consistency, and reducing errors to help improve overall patient experience and keep radiology departments running smoothly.

The Definium 656 HD includes easy-to-use features to address the day-to-day demands of technologists while speeding up the imaging process - without compromising image quality. **5-axis motorization and auto-positioning** provides for fast automatic positioning to any location in the room to speed up workflow and reduce strain on the technologist. **Intelligent Workflow Suite†** leverages 3D camera technology to produce more consistent images while avoiding repeated X-rays before they occur. **FlashPad HD** wireless detectors capture high resolution images with exceptional dose efficiency all while being thin and lightweight to optimize user experience. The latest **Helix 2.2** advanced image processing with on-device artificial intelligence (AI) provides outstanding clarity and exceptional anatomical detail across image types with anatomy-specific image enhancement regardless of variations in dose, patient positioning, field of view and metal.

Next generation mobile X-ray system improves upon the AMX Navigate platform by offering a new lightweight detector option and expanding on-device AI capabilities to support 85% of mobile x-ray exams

As the entry point to diagnostic imaging in the emergency room, inpatient bedside imaging and the intensive care unit (ICU), GE Healthcare's **AMX Navigate** continues to demonstrate its rugged reliability as the next generation of mobile digital X-ray, now with added **Adventure Series** experience designed for pediatric patients.

The AMX Navigate was designed to address key challenges impacting technologist stress and strain. Staying true to GE Healthcare X-ray's focus on effortless workflow, the company has introduced a new digital detector option, **FlashPad Plus digital detector** that is up to 25% less weight and

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[1] MV 2019 X-ray CR / DR Market Outlook Report) page 9, 37

reduces charging time by up to 85% compared to the previous generation.[2] The FlashPad Plus allows a dispersed load over 880 lbs and a 17in x 17in size option for mobile x-ray.[3] The system's power-assisted Free Motion telescoping column also helps to decrease technologist strain by reducing lift force up to 70 percent.[4]

The AMX Navigate software platform was also engineered for effortless workflow and clinical excellence to deliver consistent, reliable results whenever and wherever needed. To help radiology administrators and technologists manage ever increasing caseloads, GE Healthcare has released its next iteration of **Quality Care Suite 2.0** to enable the delivery of high quality, radiologist-ready images for every patient – including pediatric patients, a first for GE Healthcare X-ray AI**.** The collection of AI algorithms operate in parallel with the capability of analyzing seven adult anatomies and three pediatric anatomies – including "babygrams." This latest iteration help technologists improve image quality and overall imaging efficiency by providing comprehensive coverage for 85% of the most common exams.[5] When nearly 71% of images acquired need to be manually rotated,[6] the new **Intelligent Auto Rotate** is estimated to save technologists over 79 hours of manual clicks and reduce the number of manual clicks done to rotate X-ray images by 187,000 clicks per year per site.[7] Up to 46% of chest X-rays acquired on mobile x-rays systems have "quality failures" such as incomplete anatomy or incorrect orientation which may lead to interpretive and diagnostic errors for radiologists.[8] **Intelligent Field of View** detects when a lung field is clipped in a frontal chest X-ray (AUC >0.99) by notifying the technologist of positioning problems and allowing technologists to determine if a repeat is required. **Intelligent Protocol Check** analyzes images and notifies the technologist when an improper acquisition protocol is used across various anatomies. Quality Care Suite 2.0 further enhances **Zero Click Exam** capabilities by auto-rotating more anatomies and will be commercially available for the first time as a standalone software option.

The AMX platform is also the first mobile X-ray system in the world to offer on-device embedded artificial intelligence for triage. GE Healthcare's **Critical Care Suite 2.0,** co-developed with UCSF's Center for Digital Health Innovation (CDHI), is an industry-first collection of on-device AI applications for automated measurements – such as endotracheal tube placement and case prioritization - to identify and help radiologists and technologists triage critical cases, such as pneumothorax. This year at RSNA, Critical Care Suite 2.0 expands its triaging capability from PACS-based worklists to RIS-based worklists through MPPS - including an update to GE Healthcare's existing Pneumothorax algorithm within Critical Care Suite, now 510(k) pending as a CADe/x device for computer aided detection & diagnosis.[9] The updates help enable confidence level and image overlay to localize pneumothoraces.

A recent joint research collaboration with University Hospital of Cleveland[10] demonstrates the real-world performance of Critical Care Suite in a radiologist's integrated worklist on routine ICU chest

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[2] GE Healthcare Data on file.
[3] GE Healthcare Data on file.
[4] GE Healthcare Data on file – Comparison to non motorized system designs.
[5] QCS 2.0 and AMX Navigate Datasheet
[6] GE Healthcare data on file.
[7] GE Healthcare data on file.
[8] https://www.cureus.com/articles/112339-call-to-action-creating-resources-for-radiology-technologists-to-capture-higher-quality-mobile-chest-x-rays
[9] 510(k) pending at FDA. Not available for sale.
[10] This study was part of a joint research collaboration between University Hospitals of Cleveland and GE Healthcare – "Real World Performance of a PACS Integrated Pneumothorax Detection AI Algorithm on Routine ICU Chest Radiographs: Assessing Accuracy and Improvement in Radiologist Reporting Times." Available here: https://eppro02.ativ.me/web/page.php?page=Session&project=RSNA22&id=P4269

radiographs. When compared with control groups, GE Healthcare's AI-augmented workflow accurately flagged and reduced reporting times of clinically actionable pneumothoraces in routine chest x-rays by 57% to help enable urgent clinical interventions to improve patient care.[11] More information on this study will be presented in a scientific session (November 30, 2002 from 3-4pm in W7-SSIN06) and as part of GE Healthcare's Innovation Theater programming at #RSNA22.

GE Healthcare X-ray introduces industry's first off-device protocol editing solution for X-ray fleets

By default, a fixed x-ray system has approximately 9,000 protocols, but may have as many as 15,000 protocols based on site needs. On device editing for such huge databases is time consuming and inefficient and can prevent the system from being used clinically for days. **Imaging Protocol Manager (IPM) for X-ray** is a lightweight, standalone, Windows-based solution that allows protocol editing anywhere with no additional IT enterprise infrastructure needed. Additionally, the multi-edit capabilities in IPM for X-ray, achieves a 58% reduction in the number of clicks needed and a 31% reduction in the time needed to edit the protocol techniques.[12] IPM is compatible with more than thirteen of GE Healthcare's fixed and mobile X-ray system models.

More information on mobile and fixed X-ray, as well as radiography and fluoroscopy technologies can be found at GE Healthcare booth #7324 in the North Hall.

Learn more at the following GE Innovation Theater presentations during #RSNA22:

Artificial intelligence-enabled detection of pneumothorax on chest X-rays: Analyzing its accuracy and effect on improving radiologist workflow (November 28, 2022 from 12:00pm – 12:20pm CST): Join us to learn about how artificial intelligence can enable the detection of pneumothorax from chest X-rays. Hear from Dr. Amit Gupta, Cardiothoracic Radiologist, who has analyzed the accuracy and effect on improving the radiologist workflow.

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[11] Real World Performance of a PACS Integrated Pneumothorax Detection AI Algorithm on Routine ICU Chest Radiographs: Assessing Accuracy and Improvement in Radiologist Reporting Times." Available here:
https://eppro02.ativ.me/web/page.php?page=Session&project=RSNA22&id=P4269
[12] Compares changing protocol techniques (specifically the grid and sid values) on the IPM for X-Ray application to a fixed-rad Discovery XR656 HD system