Carestream

Efficient. Consistent. Intelligent .

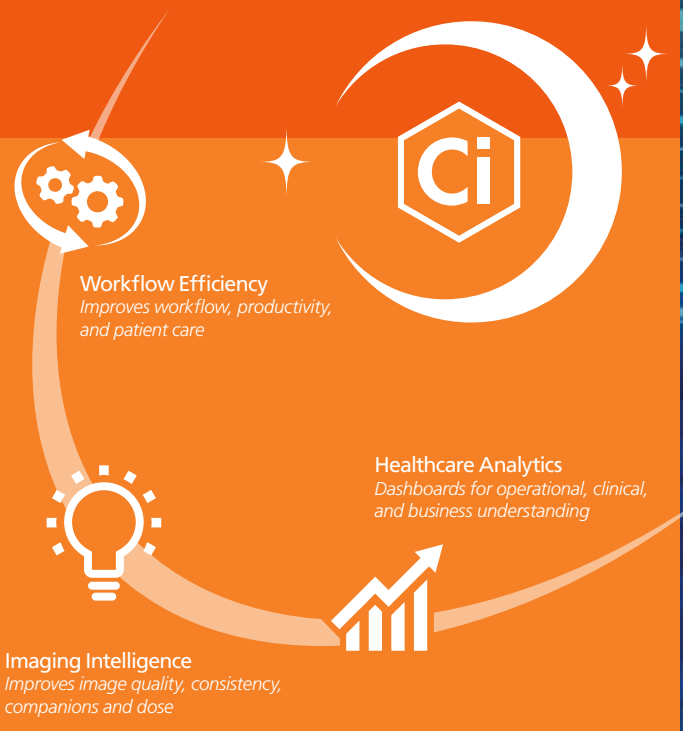
Optimize Your Workflow with the Power of AI.

CARESTREAM INTELLIGENCE

Introducing a New Way of Thinking: Carestream Intelligence.

Carestream Health produces software solutions that enhance workflow efficiency for radiographers, potentially increasing patient volume throughput. Key benefits include consistent imaging, automated and standardized processes to optimize workflows, and a reduction in retakes and radiation dose.

The Ci framework enhances the radiographer's workflow by providing access to essential functions both before and after exposure. It leverages advanced workflows embedded with AI and other proprietary non-AI algorithms. Under this framework, Carestream offers a robust set of features that streamline the imaging process.



We Speak AI

Workflow AI: A structured process that uses artificial intelligence to automate and optimize tasks. It encompasses various steps, from simple data entry and analysis to complex image recognition, aiming to enhance efficiency, accuracy, and productivity within the Radiology Department.

Carestream has established itself as a leader in Workflow AI, enhancing the radiology experience. As the premier manufacturer of Digital Radiography (DR) solutions, we prioritize the comfort, and safety of our customers' patients. We Care.

Carestream Intelligence Ci

↓8.4

Customers saw an **average decrease of 8.4 seconds** in time to first exposure which saves 140 min/1000 first exposures.[1]

[1] During customer site evaluations using Carestream DR Smart Room Assist features.

Patient-Position Monitoring

Radiographers can monitor their patients from the operator console through a live camera view and see if the patient has moved out of position.

Availability **SRA**P | **SR**P

The Power of Smart-Room Capabilities.

Smart DR Workflow uses AI to streamline common tasks.

For busy departments with limited resources, our Smart Room can help automate tasks for radiographers enabling faster exams, enhanced patient throughput, greater productivity, and improved patient care.

16%

Customers realized an average reject rate reduction of 16% from their current rates.[1]

Audio Assist

Bi-directional audio assist allows two-way communication between the radiographer and patient, utilizing customizable audio guidance presets and direct audio. With direct audio, radiographers can easily provide instructions to their patients in their native language – helping guide them through the procedure, for faster, smoother exams. Availability **SRA**P | **SR**P

Virtual Long-Length Imaging (LLI)

This feature allows the technologist to set and adjust the auto-LLI exposure region from the operator console on the live camera view – supporting faster LLI workflow, improved productivity, and a reduction in work intensity. It also delivers improved imaging consistency, while helping prevent anatomy clipping to reduce retakes.

Availability **SRA**P | **SR**P

[1] During customer site evaluations using Carestream DR Smart Room Assist features.

Patient Picture

Allows the radiographer, from the console, to capture photos of the patient concurrently with the diagnostic image or manually. These photos are delivered to the physician along with the patient record to show positioning and provide additional clinical context. Unwanted pictures can be easily deleted prior to delivery.

Availability **SRA**P | **SR**P

< Virtual Collimation

To accelerate exam time, this feature enables the radiographer to adjust the collimation directly from the operator console using the live camera view. Faster collimator adjustment speeds workflow helps reduce work intensity and enhances imaging consistency. Virtual Collimation allows the radiographer to further adjust the collimation from the console to reduce radiation exposure to the patient and avoid clipping anatomy. You can also count on a reduction in anatomy clipping, for fewer retakes and lower dose. Availability **SRA**P | **SR**P

Positioning Overlay >

Positioning the patient for optimal imaging can be a challenge. This feature displays the AEC cells and detector boundary on the live camera view at the operator console, so the radiographer can confirm that the patient is ideally positioned within the imaging field prior to the exposure.

Availability **SRA**P | **SR**P

Align Assist

Align assist indicates the alignment between the tube head and detector and tube head angles for easy viewing by the radiographer. This helps speed optimal alignment and positioning when the detector is outside of the bucky. Highly beneficial for tabletop and stretcher imaging, as well as for exams of wheelchair patients, Align Assist supports consistency, reduced retakes, and faster workflow.

Availability **SRA**P | **SR**P

Smart Patient Positioning* Ai

The live camera view is augmented with overlays for patient position correction/verification, pose verification, and detector boundary.

This allows for more accurate alignment and consistent image acquisition. It also reduces the need for physical contact between the radiographer and patients – a huge benefit when direct contact with potentially contagious patients needs to be minimized.

Availability **SR**P

Smart Auto-Position* Ai >

Input from the camera is used to assess a patient's height and size, and to ensure that the patient is standing out of the equipment's path. The wallstand and tubehead automatically move into the right position – vertically only, and at a slow speed, for safety.

Availability **SR**P

< Ci LLI ROI Ai

Smart Long Length Imaging allows the system to set a LLI region of interest, collimation width, and OID for an Automactic LLI exam.

Key benefits include speed up and simplify LLI workflow, up to 40% reduction time compared with Virtual LLI, reduce retakes by adapting to patient movement, no laser marking for ROI planning and avoid marking ROI when tube rotation is near 90 degrees.

Availability **SRA**P | **SR**P

Smart Technique* Ai

A recent study[2] published in the Journal of the American College of Radiology reports that, on average, 18% of imaging exams require retakes, with 15% of those retakes due to exposure issues. Carestream's Smart Technique automatically selects the appropriate acquisition technique based upon the patient's size and verifies technologists exposure settings.

This can eliminate up to 492 retakes every year. And because retakes require about three minutes each, this could save more than 24 hours each year – while it enables faster dose setting and reduces overexposures.

Availability **SR**P

Smart Collimation* Ai

This feature automatically adjusts the collimation field based on the detector size and patient position to provide image consistency and help reduce anatomy clipping and retakes.

Availability **SR**P

Video Assist >

This feature prompts patients with photos on a supplemental monitor to guide them on how to properly position themselves for the exam. This helps minimize close radiographer/patient interaction – especially critical to reduce the risk of infection when imaging contagious patients.

Availability **SR**P

< Ci-Fine Rotation Ai

Automatically display images in the proper orientation with Smart Bundle.

Key benefits include consistent presentation of PACS, reduce post exposure editing and higher productivity.

Availability **SRA**P | **SR**P

Smart Image Orientation* Ai

Carestream's Smart Image Orientation feature applies AI to automatically display chest images in the proper orientation. This is key, as a study[3] presented at the 2019 Conference on Machine Intelligence in Medical Imaging reported that 83% of all bedside chest X-rays require manual intervention to rotate images – requiring 19.59 hours of manual clicks over a period of one year.

According to this study, this feature has the potential to reduce those 19.59 hours to just seven minutes of clicks per year – a dramatic time savings to accelerate workflow for radiographers, reduce costs and allow images to be sent to PACS more quickly.

Smart Quality Control* Ai

Contrast Noise Ratio (CNR) notifies users when the acquired image is outside the preset target contrast and lower limit range – allowing radiographers to make corrections as needed to ensure optimal image quality.

The Anatomy Clipping feature uses AI to outline areas of the chest anatomy that may have been collimated off the image. This allows radiographers to quickly determine whether a retake is needed, which minimizes recalls.

Our Deviation Index feature quantities the deviation of the actual exposure index and notifies users if it's outside the preset target range – again, so that radiographers can make corrections that ensure the best possible image quality.

Carestream Intelligence

Workflow Automation Pre-Exposure

Image Quality Optimized

Audio Assist

Smart Collimation

Position Monitoring

Smart Positioning

Consistent Imaging
Optimize Workflow
Reduces Retakes

Automate & Standardize
Smart & Aware
Reduce Dose

Smart Auto-Position

Smart Technique

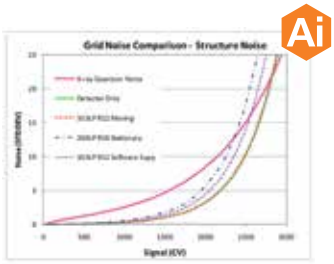
Video Assist

Multi-shot Long Length Imaging

Carestream Intelligence

Image Intelligence Post-Exposure

Image Quality Optimized



Smart Noise Cancellation & Smart Grid

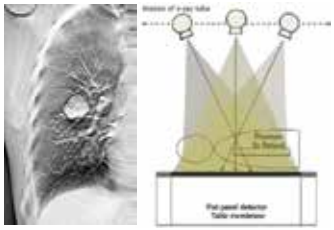
Tube & Line Visualization

Pneumothorax

Dual Energy & Bone Suppression

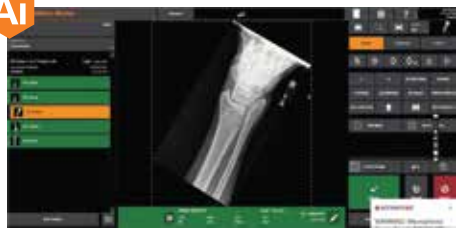
LLI & Stitching

Tomosynthesis



Pediatric Imaging & Enhancement

Ci Fine Rotation



Consistent Orientation

NO MATTER WHICH ROAD YOU'RE ON,

WE'LL GET YOU WHERE YOU NEED TO GO.

SMART IMAGING SOLUTIONS

Feature Availability **SRA**P **SR**P

Smart Room Feature	Smart Room Assist Package	Smart Room Package	Developed with Ai
Patient-Position Monitoring	●	●	
Virtual Collimation	●	●	
Audio Assist	●	●	
Patient Picture	●	●	
Virtual Long Length Imaging (Needs LLI)	●	●	
Positioning Overlay	●	●	
Align Assist	●	●	
Ci-Fine Rotation	●	●	Ai
Ci-LLI ROI	●	●	Ai
Smart Patient Positioning		●	Ai
Smart Auto Position		●	Ai
Smart Technique		●	Ai
Smart Collimation		●	Ai
Video Assist		●	

Ai Developed with Ai

* Feature available for chest PA only.

2 Unified Database for Rejected Image Analysis Across Multiple Vendors in Radiography. Kevin J Little, Ingrid Reiser , Lili Liu, Tiffany Kinsey , Adrian A Sánchez, Kateland Haas, Florence Mallory, Carmen Froman, Zheng Feng Lu.

3 Leveraging Deep Learning Artificial Intelligence in Detecting the Orientation of Chest X-ray Images. Khaled Younis, PhD, GE Healthcare; Ravi Soni, MS; Min Zhang, PhD; Najib Akram; German Vera; Katelyn Nye; Gireesha Rao; Gopal Avinash, PhD; John Sabol, PhD.

A Community of Service and Support.

For dependable service, look to our Customer Success Network. We work continuously to improve your imaging performance, help you to innovate as needs change, and make the most of your budget and resources. Carestream's Customer Success Network surrounds you with a dynamic team of experts, with a Single Point of Entry for easy, customized access to the right people in every situation. You and your patients will benefit from the expertise and best practices only Carestream can deliver.

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Rx only

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