Sustainable X-ray solutions for a resilient tomorrow

Definium™ Tempo & Definium™ Tempo Pro

Creating a more sustainable future requires us to care for the planet and its inhabitants.

It is essential that we continue to drive progress toward early, precise, and accessible diagnosis and treatment of more patients. For the planet, it is critical that we do so with a reduced impact on precious and rare resources that are imperative to life. We believe that the advancement of precision health, greater digitization of healthcare, and increased access to quality care are fundamental to accomplishing this goal.

We support carbon policies that reduce greenhouse gas emissions and promote sustainable development. We are committed to achieving net zero by 2050 and are part of the UN-backed "Race to Zero," with a goal of reducing emissions based on the Paris Agreement. We've also set a public goal to achieve a 50% reduction in our own operational emissions by 2030. As a result of these efforts, we want to enable a more sustainable health system by addressing not only the environmental impacts of our products but also the challenges healthcare professionals and their patients face with resilient, digital options.

We are committed to achieving **net zero** emissions by 2050.

We've set a public goal of a **50% reduction** in our own operational emissions by 2030.

We deliver sustainable, intelligently efficient solutions for a resilient tomorrow.

Building a healthier world to help improve access to care and enable better patient outcomes.

Green
Using fewer resources for a healthier planet.

Digital
Transforming healthcare through innovation.

Resilience
Building flexibility and dependability across healthcare systems.

Definium Tempo & Definium Tempo Pro help create a resilient tomorrow.

Our Definium Tempo & Definium Tempo Pro X-ray systems and their services help ensure that radiology professionals and the patients they serve have the technology necessary to create a sustainable and resilient tomorrow.

Reducing environmental impact

- Reduce energy consumption by 50% using standby mode when the system is idle.[1]
- 80% of our X-ray systems are eligible to be recycled.[2]

Improving outcomes

- Optimized detectors and image processing facilitate low dose imaging techniques.
- Multiple sizes of FlashPad™ HD detectors provide better patient coverage and fleet standardization.
- Helix™ 2.1 advanced image processing delivers extraordinary details and consistent performance across patient population and anatomies.
- Real Time IP Looks and IQ Compare allow customers to quickly set preferences for image looks.
- Workflow automation tools include Auto Protocol Assist[†], Auto Grid[†], Auto Field of View (FOV)[†], Auto Angulation, Auto Positioning, and Auto Centering.
- Intelligent Workflow Suite[†] leverages 3D camera technology with patient monitoring and positioning workflow assistance to produce more consistent images while avoiding repeated X-rays before they occur.
- Definium Tempo Pro features 4-axis motorized overhead tube suspension (OTS) with auto-positioning and auto-tracking functionalities.
- Definium Tempo features 2-axis motorized OTS with auto-tracking functionality.

[1] Compared to the X-ray system in scan mode.
[2] Data on file.

Contributing to a healthier planet

More than half of the healthcare sector's climate footprint, approximately 53%, is attributable to energy use.[3] As a result, we have strengthened our commitment to environmentally conscious design and sustainable practices across our product manufacturing, sourcing, distribution, installation, and service operations. This includes improving energy efficiency, optimizing the use of limited or rare materials, providing digitally enabled and remote predictive and maintenance service throughout the product lifespan, and offering refurbishment and recycling options at the end of product life.

GE Healthcare environmental management system is ISO 14001 certified.

Our production and service operations align to ISO 14001 standards.

Materials
GE Healthcare reviews the environmental aspects of the material supply used within our products to increase recyclability and decrease the use of hazardous substances, when possible.

Recyclable	We're committed to high recyclability of our products and reuse when possible.
	80% of materials used in the system are eligible to be recycled.[4]

Reduce the use of hazardous substances	EU RoHS directive 2011/65/EU
	REACH (EC) 1907–2006

Manufacturing
Through our environmental reviews, we also focus on implementing renewable energy and reducing waste.

Renewable energy	We have removed lead material as counterweight, and no chemical materials are used for production. Native digital X-rays outperform film in image quality, eliminating the need for water and chemicals used in producing print films.

Packaging

GE Healthcare imaging equipment has a robust and multi-sourced supply chain for systems and spare parts across all product portfolios.

Improved packaging

Packaging has been reduced from four boxes to one reusable box to reduce waste. A reusable metal buckle is used to fasten the wood-box packaging instead of nails, making it easier to open.

Product utilization

Our imaging products are designed to help enable energy efficiency through dedicated features and advanced applications to reduce the environmental impact.

Ergonomically designed patient setup and positioning	2-axis or 4-axis motorized OTS offers auto-positioning, 2-way auto-tracking, auto-centering, and auto-angulation capabilities to automatically assist technologists with patient positioning, reducing technologist physical workload.
	Smart Tube Head Console with 12-inch touchscreen provides in-room exam workflow control to support seamless operation close to the patient, avoiding trips to the control room and giving technologists additional time for better patient care and higher patient throughput.
	Elevating tables equipped with motion control, auto-tracking, patient safety, and foot pedal facilitate elevation time (min to max) in ≤ 18 seconds.
	Motorized wall stands are available in two configurations to satisfy different clinical demands, room layouts, and room sizes. Both wall stands support reverse tracking, and the extended arm wall stand offers stretcher support.
	24-inch touchscreen† in control room with common workflow user interface (UI) design is shared with GE mobile radiography products.
Guidance for product utilization	Instructions are provided for use of the equipment to minimize the environmental impact during installation, use, and operation.
Reduce energy consumption during use	Reduce energy consumption by 50% using standby mode when the system is idle.[5]

5 Compared to the X-ray system in scan mode.

End of product life

We are increasingly putting our retired products' materials back into the supply chain to maximize efficient use and minimize unnecessary waste. This circularity model enables our imaging products to extend their clinical impact through longer lifespans while reducing the environmental footprint. Additionally, we offer our customers partnered support for upgrades and services throughout a product's lifespan to maintain optimal performance and help drive better patient outcomes.

Our refurbishment programs involve an extensive inspection and testing process, designed to bring equipment back to its original certified manufacturing specifications. If the system is not suitable for refurbishment, eligible parts are harvested for reuse after quality and performance testing, while the rest are returned to dedicated recycling facilities.

Power consumption	Standby (no scan): 1.0 kVA Scan mode: 112 kVA (momentary) 2.2 kVA (continuous)
Guidance for end of lifecycle	Equipment instructions are provided to minimize the environmental impact for disposal or recycling.
Upgrades	Hardware and software options are provided as solutions to extend the product lifespan.
	Definium Tempo and Definium Tempo Pro are backward compatible with GE legacy OTS systems' mechanical infrastructure.
Parts harvesting and refurbishment options are provided to reduce waste and environmental impacts while extending imaging access to less advantaged regions.	80% of X-ray system parts are eligible for assessment through the refurbishment program, in which they are assessed for refurbishment, harvesting, or recycling at the appropriate time in the lifespan.[6]
	94–96% of most systems are reused, refurbished, or recycled, extending the lifetime of each product.[6]
Waste reduction	This system is in accordance with Waste Electrical and Electronic Equipment (WEEE) regulations.

[6] Products within MR, CT, nuclear medicine, PET and X-ray are eligible for refurbishment, although whether a system is actually refurbished versus harvested for parts or otherwise recycled or reused is dependent on the state of the system when GE Healthcare takes possession of it. Data on file.

Digitizing healthcare through transformative innovations for a resilient tomorrow

We are committed to investing in digital capabilities that help accelerate clinical decision making, optimize imaging operations, and drive efficiencies in exam workflows, all of which can improve patient outcomes. Enabling digital transformation will further enhance our predictive and maintenance service operations for the life of your products.

We are also dedicated to driving a more resilient and sustainable future in healthcare. Many factors, including the pandemic, climate-related weather disasters, and supply-chain issues amplified this need. Managing operations through these challenges requires resilience and perseverance.

Advancing clinical outcomes

Advanced applications and cutting-edge AI tools provide personalized data to drive actionable insights, helping healthcare professionals make fast, accurate clinical decisions for care pathways.

Gain actionable clinical insights quicker for earlier diagnosis	System includes predictive analysis around positioning system and detector.
	Intelligent Workflow Suite[†] uses live streaming video and 3D cameras to solve for common errors and inefficiencies within the imaging department, including incorrect positioning, poor image quality caused by incorrect patient habitus, and ambiguities due to imaging conditions.
Help improve patient outcomes with improved image quality	Helix 2.1 advanced image processing leverages artificial intelligence (AI) in image quality to deliver sharp detail and consistent performance in X-ray despite variations in exposure technique and challenging exam conditions.
	Dual Energy Subtraction[†] eliminates obstructions from overlying bones while providing additional information on calcifications in chest and abdomen studies.
	Auto Image Paste[†] enhanced with AutoSpine is an intelligent pasting algorithm that follows the contour of the spine for vertical equalization, enabling a natural balance of brightness and contrast along the patient body.
Drive advancements with precision health	Utilize Critical Care Suite, our on-device AI algorithm for detection of critical conditions, such as pneumothorax on chest X-rays, with high accuracy (AUC 0.96).[7]

Optimizing imaging operations

Our AI-based and advanced digital solutions are designed to increase efficiencies across the radiology spectrum without increasing the administrative and training burden on radiologists and technologists.

Increase productivity and consistency

Auto Image Paste[†]—Acquire multiple images in one fast, seamless, highly automated exam to generate images that are larger than the detector size either at the wall stand or at the table. Auto Image Paste has been enhanced with AutoSpine, an intelligent algorithm that follows the contour of the spine for vertical equalization, enabling a natural balance of brightness and contrast along the patient body in lateral spine exams.

Dual Energy Subtraction[†]—Beyond image processing, a dual-energy chest exam is performed by acquiring two images at different energy levels separated by 160 milliseconds. Three images are generated, leading to the detection of abnormalities that may have been obscured in a conventional radiograph.

Real Time IP Looks and Image Quality (IQ)—Compare to allow customers to quickly set preferences for image looks.

QuickEnhance—Apply predefined image looks on a per-anatomy basis for custom image enhancement, such as for PICC lines.

Automatic angulated image pasting[†]—Use on a motorized wall stand or at the table for wide range of orthopedic clinical applications.

Optimizing imaging operations (Cont.)

Increase productivity and consistency (Cont.)

Sophisticated dose reporting, Deviation Index (DI), and Exposure Index (EI)—These functionalities optimize patient life cycle dose.

Repeat/Reject Analysis—This automated quality assurance tool allows for repeat or reject images to be captured and categorized by technologist.

Quality Care Suite with AI-driven Intelligent Field of View—This feature detects when a lung field is clipped in a frontal chest X-ray and allows the radiographers to determine if a repeat is required before sending the image to PACS.

Reduce downtime

Remote system connection, diagnosis, and repair with iCenter™ asset management, OnWatch™ proactive monitoring, and InSite™ Remote Service Platform (RSvP)—Enable our service team to perform remote diagnostics and troubleshooting for fast solutions, saving significant travel time and energy expenditure.

Digital Expert[†]—This comprehensive digital solution provides on-demand, live, and face-to-face clinical applications training delivered to end users through a mobile tablet PC.

X-Ray Quality Application[†]—This web-based solution can connect to multiple compatible radiography systems and help identify root causes of rejects, enhance training, drive efficiency, and minimize patient dose by reducing the number of image retakes.

Cybersecurity

GE Healthcare's Design Engineering Privacy and Security (DEPS) process follows GDPR, HIPAA, NIST 800-53, NIST 800-30, ISO 27001, and NIST CSF requirements.

Enabling intelligent exam workflows

Intelligent automation features help to drive consistency, enable fast, easy exams, and improve workflow with fewer resources, all while achieving similar or improved outcomes.

Reduce exam time

<5.5 seconds between two consecutive X-ray exposures reduces exam time.[8]

Cleanability

Our equipment is designed to be cleaned and disinfected easily. We continue to test and approve new cleaning and disinfecting agents. Visit *Cleaning.GEHealthcare.com* for updates.

Reduce setup time

Image Rotate and Auto Advance—Eliminate more than 70,000 clicks per year.[9]

Intelligent Workflow Suite[†]—This collection of workflow enhancement tools is formed by seamlessly combining the system's 3D video camera, computer vision, and video analytics. The system automatically assists technologists in delivering more consistent images and provides contextual awareness for radiologists.

Position Assist[†]—This feature provides an overlay of the detector boundaries, ion chamber locations, and active ion chamber indications on the patient video image to assist in proper patient positioning at the table or wall stand.

Technique Assist[†]—Automate patient thickness measurements of over 30 anatomy/view combinations, including chest, abdomen, pelvis, and spine, with customizable patient habitus indications. This software assists technologists in the selection of the correct patient habitus by presenting a suggestion on the acquisition workstation UI based upon calculations taken.

Patient Snapshot[†]—Store a video snapshot image as a secondary capture image, which can be sent to PACS individually or together with the diagnostic image. This image provides contextual awareness for the radiologist. Enable/disable for individual exams or system-wide according to site preferences.

[8] Enabled by operation interface specs. Data on file.

[9] GE Healthcare data on file.

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Optimizing imaging operations (Cont.)

Reduce setup time (Cont.)

Remote Control[†], Remote Foot Pedal[†], and Extended Handswitch[†]—Enable the operation of the system at the most convenient location for technologists, reducing unnecessary movement throughout the exam.

Auto Field of View[†]—This feature enables the user to pre-define the collimation size on an individual view basis, and the system automatically adjusts the collimation when the view is selected for the patient.

AutoRAD[†] featuring Auto Protocol Assist and Auto FOV—AutoRAD assists the technologist by automatically selecting the correct anatomy-specific protocol and collimation without any button presses after patient selection.

Building a healthy world to help enable better patient outcomes.

GE Healthcare is a member of COCIR, the European Trade Association representing the medical imaging, radiotherapy, health ICT, and electromedical industries.[10]

[10]https://www.cocir.org/about-cocir/members.html

[†]Denotes optional feature.
Not all products or features are available in all geographies. Check with your local GE Healthcare representative for availability in your country.
Not all features are included in the standard system configuration. Check with your local GE Healthcare representative.

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