



Sustainable mammography solutions for a resilient tomorrow

Senographe™ Crystal Nova





Creating a more sustainable future requires we 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.



Senographe™ Crystal Nova helps create a resilient tomorrow.

Our Senographe™ Crystal Nova and its 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

- With its small footprint, this system is designed to fit in small spaces.
- Our North Greenbush, NY, digital mammography production facility received USGBC LEED Gold Certification.¹
- 49% of materials used in the system are recyclable.²

Improving outcomes

- Digital mammography helps increase breast cancer detection by 21% compared with computed radiography.³
- <3 minutes per exam⁴ for increased throughput can help provide resilience and better access for breast screening and early diagnosis.



¹ [https://www.reliableplant.com/Read/18055/ge-healthcare-opens-\\$165m-production-facility-in-ny](https://www.reliableplant.com/Read/18055/ge-healthcare-opens-$165m-production-facility-in-ny)

² Data on file.

³ Chiarelli et al, radiology 2013

⁴ Assuming that a technician requires 30 seconds to position the patient for each acquisition. O'Riordan E. et al, Radiology, 2000.



Contributing to a healthier planet

More than half of the healthcare sector’s climate footprint, approximately 53%, is attributable to energy use.⁵ 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 49% of materials used in the system are recyclable.⁶

Reduce the use of hazardous substances

EU RoHS directive 2011/65/EU

REACH (EC) 1907-2006

Through the shift to digital solutions, GE’s digital mammography systems eliminate the need for film and chemicals in film processing used by analog mammography systems. Replacing a GE analog mammography system that processes 27,400 films per year with a GE digital mammography system can save up to 410 gallons (1,500 L) of fixer and developer annually.⁷

⁶ Data on file.

⁷ Digital mammography enables digital image review on a monitor, thereby eliminating x-ray film and chemicals used by a film processor. Calculations based on the average number of exams per year per system (average patient throughput per year), estimated with AJR publications.



Manufacturing

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

Renewable energy

Our North Greenbush, NY, digital mammography production facility targets to become carbon neutral by the end of 2022, by procuring electricity from a New York solar developer under NY State Community Distributed Generation program.

Green Building Community

Our North Greenbush, NY, digital mammography production facility received USGBC LEED Gold Certification.⁸

Natural resources

Transforming innovation over the history of developing mammography and replacing an analog mammography system with a digital mammography system reduces water utilization by up to 8,000 gallons (31,000 L) compared to an analogy system that processed 27,400 films per year.⁹

⁸ [https://www.reliableplant.com/Read/18055/ge-healthcare-opens-\\$165m-production-facility-in-ny](https://www.reliableplant.com/Read/18055/ge-healthcare-opens-$165m-production-facility-in-ny)

⁹ By replacing film with digital images, GE digital mammography system eliminates the need to develop film and reduces the water associated with developing film.



Packaging

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

Improved Packaging

Senographe Crystal Nova is delivered in a single crate to reduce packaging waste.



Product utilization

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

Patient setup and positioning

Position patients quickly and precisely with the small sliding paddle to accommodate all types of breasts.

Reduce energy consumption during use

<3 minutes per exam¹⁰

Faster screening and workflow improvements help to reduce energy requirements.

¹⁰ Assuming that a technician requires 30 seconds to position the patient for each acquisition. O'Riordan E. et al, Radiology, 2000.



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.

Guidance for end of lifecycle

Equipment instructions are provided to minimize the environmental impact for disposal or recycling.

Parts harvesting and refurbishment: options are provided to reduce waste and environmental impacts while extending imaging access to less advantaged regions.

Mammography system parts are eligible for assessment for the refurbishment program, in which they are assessed for refurbishment, harvesting, or recycling at the appropriate time in the lifespan.¹¹

Waste reduction

This system is in accordance with Waste Electrical and Electronic Equipment (WEEE) regulations.

¹¹ Mammography system parts 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.



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

Reach a confident diagnosis by reviewing cases quickly and easily with the powerful Seno Iris™ Lite workstation for a simple reading experience with intuitive, automated, and customizable protocols.

Help improve patient outcomes with improved image quality

Digital mammography helps increase breast cancer detection by 21% compared with computed radiography.¹²

Image quality is exceptional with a limited dose to your patients, which is significantly below regulatory and standard guidelines (EUREF).¹³

¹² Chiarelli et al, radiology 2013

¹³ N.W. Marshall and H. Bosmans, Medical Physics UZ Leuven, Application of the draft EUREF protocol for Quality Control of digital breast tomosynthesis (DBT) systems", BHPA 2014 Quality Control of digital breast tomosynthesis (DBT) systems", BHPA 2014



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

<3 minutes per exam¹⁴

Increased throughput can help provide resilience and better access for breast screening and early diagnosis.

Utilize automated protocols to simplify the screening exams.

Improve patient throughput by 55%, utilizing rapid image acquisition and display with this digital mammography system.¹⁵

Reduce downtime

Senographe Crystal Nova's compact design allows for installation in a limited space environment, reducing fixed costs, avoiding construction, and increasing installation flexibility.

Remote connectivity solutions to streamline your needs for secure serviceability, review and troubleshooting of the system.

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.

¹⁴ Assuming that a technician requires 30 seconds to position the patient for each acquisition. O'Riordan E. et al, Radiology, 2000.

¹⁵ According to AJR publication (July 2006), screening mammography acquisition time averaged 21.6 minutes for screen film and 14.6 minutes for digital examinations.



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

A four-view exam can readily be completed in less than 3 minutes, versus over 12 minutes with screen-film procedures, including image acquisition and processing.¹⁶

Ease of use

Adjust the gantry in one touch, using the 'N-button' to quickly position your workflow preferences. Auto Move enables the next angulation and adapts the height automatically.

With a simple and intuitive user interface, technologists can transition to digital mammography without delay.

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](https://www.gehealthcare.com/cleaning) for updates.

¹⁶ Assuming that a technician requires 30 seconds to position the patient for each acquisition. O'Riordan E. et al, Radiology, 2000.



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.**

***<https://www.cocir.org/about-cocir/members.html>*

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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