



# Sustainable computed tomography solutions for a resilient tomorrow

Revolution™ CT  
Revolution™ CT ES





# 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.



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**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.



## Revolution™ CT (ES) helps create a resilient tomorrow

Our system ensures that radiology professionals and the patients they serve have the technology necessary to create a sustainable and resilient tomorrow.

### Reducing environmental impact

- 85% of materials used in the system are recyclable.<sup>1</sup>
- Our CT systems are built with scalability and upgradability to help prevent technology obsolescence and advance clinical capability.
- We're committed to continuing to drive reduction of hazardous substances.

### Improving outcomes

- Experience the clinical potential of coverage and speed.
- Delivering a versatile solution for challenging clinical care areas.
- Future-proof platform



<sup>1</sup> 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.**<sup>2</sup> 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

85% of materials used in the system are recyclable.<sup>3</sup>

When we build a replacement X-ray tube for the system, 40.4% of the mass of the X-ray tube is reused, helping to reduce the use of energy and natural resources.<sup>3</sup>

### Reduce the use of hazardous substances

EU RoHS directive 2011/65/EU

REACH (EC) 1907-2006

The system gantry design does not use lead material as counterweight or for shielding in the pre-patient collimator but instead uses steel and tungsten, helping to improve production worker safety and reduce environmental impact.

## Manufacturing

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

### Renewable energy

More than 1,600 kWh of energy is generated with GE on-site solar renewable energy at the Waukesha, Wisconsin CT production facility. This large solar array is located on both the roof and surrounding grounds.<sup>3</sup>

<sup>2</sup> Health care climate footprint report | Health Care Without Harm (noharm-uscanada.org)

<sup>3</sup> Data on file.



## Packaging

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

**Product transportation<sup>4</sup>** Air transport: 47%  
Ocean transport: 10%  
Truck transport: 43%

**53% product transportation utilizes low environmental impact modes<sup>4</sup>**

<sup>4</sup>The values provided are based on product transportation and distribution during 2021.

## 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

Streamline the patient setup with Auto Positioning. Starting with smart protocol selection and automated centering, simply click a button to automatically position your patient at the start location of the scan.

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#### Reduce staff burden

For flexible options, the remote control panel allows the technologist to make table position adjustments or set a landmark from the console.

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#### Reduce noise

Improve patient comfort with reduced audible noise by more than 50% during gantry rotation at 0.28s (audible gantry noise is measured at 69 dBA).<sup>5</sup>

<sup>5</sup> Compared to a typical belt-driven system rotating at 0.28s/rotation speed



## Product utilization (Cont.)

### Reduce energy consumption during use

Help minimize power consumption when the system is idle by utilizing a selection of power management that can shut down applications and the operating system as well as turn off the host computer at off-peak hours.

### Power consumption<sup>6</sup>

Scenario – Off: 46 kWh

Scenario – Idle: 92 kWh

Scenario – Low Power: 74 kWh



<sup>6</sup> Per COCIR Self-regulatory initiative for medical imaging equipment, over a 24-hour period, with 12 hours night scenario as noted (Off, Idle, Low Power).



## 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

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

### Upgrades: hardware and software options are provided as a solution to extend the product lifespan.

Our CT system offers multiple upgrade options to extend the lifespan of the system including:

- 80mm to 160mm detector
- Upgrade to Revolution™ Apex platform

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Software upgrades are also available, including: GSI and deep learning image recon for GSI. Ensure to utilize Smart Subscription to keep your software up to date.

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

CT 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.<sup>7</sup>

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94–96% of most systems are reused, refurbished, or recycled, extending the lifetime of each product.<sup>7</sup>

### Waste reduction

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

<sup>7</sup> Products within MR, CT, Nuclear Medicine, and PET/CT 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.



## GE Healthcare product stewardship commitment

For more than 20 years, GE Healthcare's GoldSeal program has played a vital role in reducing medical imaging equipment waste by promoting and enabling the reuse of equipment and parts from de-installed imaging systems. After undergoing an extensive inspection and testing process, GoldSeal equipment is refurbished to meet the original system specifications. Buyers of GoldSeal MRI, CT, or PET/CT products can save on the acquisition costs associated with buying new equipment. Machines deemed unsuitable for GoldSeal refurbishment are dismantled at end of life, and after successfully passing acceptance testing criteria, specific parts are harvested for reuse. Where harvesting is not appropriate, GE Healthcare recycles about 94–96% of most systems. In a typical year, GoldSeal refurbishes approximately 8,000 pieces of imaging machines and ultrasounds.

### NEW PRODUCT PURCHASE OR LEASE

#### GOLDSEAL PROGRAM: LEASE RETURN PRODUCT OR BUYBACK

- Comprehensively refurbished and/or remanufactured
- Updated with new software
- Recertified following all FDA requirements
- Equipment backed with 1 year, same-as-new equipment warranty

#### RECLAIM FOR PARTS AND MATERIALS

Identify parts for refurbishing and/or repurpose

#### END OF LIFE

About 94–96% of most systems are recycled, substantially reducing the volume of waste en route to landfills.



# 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 resiliency 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.

### Drive advancements with precision health

Leveraging AI and analytics to support healthcare applications designed to increase productivity, streamline workflows, minimize rework, and deliver the most personalized patient care possible toward the goal of precision health.

### Gain actionable clinical insights quicker for earlier diagnosis

Review all CT series acquired for acute stroke workup with exceptional flexibility and simplicity with comprehensive workflow solution FastStroke.

### Keep your imaging equipment up to date with advanced clinical applications

Smart Subscription protects your equipment from obsolescence and keeps the system at its best. It improves patient outcomes and productivity due to improved functionality and easy access to innovation.

### Help improve patient outcomes with improved image quality

By utilizing our deep learning image reconstruction engine, TrueFidelity™ sets a new benchmark in CT image quality. Gain outstanding image details, clarity, and texture all at the same time—without compromise.

Use up to 82% lower patient dose with ASiR-V™ with the same image quality.<sup>8</sup>

<sup>8</sup> Compared to standard filtered back projection (FBP) reconstruction. In clinical practice, the use of ASiR-V may reduce CT patient dose depending on the clinical task, patient size, anatomical location, and clinical practice. A consultation with a radiologist and a physicist should be made to determine the appropriate dose to obtain diagnostic image quality for the particular clinical task.



## 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

90% protocol suggestion accuracy with Imaging Protocol Manager<sup>9</sup>

Remotely upload, edit, and monitor protocols for multiple service lines, including CT and MR, to deliver consistent image quality and optimal patient care with Imaging Protocol Manager.

Gain data intelligence and actionable insights across your radiology department to increase productivity with Imaging Insights.

Reduce repeat scans and ensure accuracy through live support by leveraging centralized expertise and standardized care across the enterprise with Digital Expert.

Remote diagnostics and predictive analytics solutions to streamline your needs:

- Enable software updates, reducing the need for on-site support
- Secure serviceability, review, and system troubleshooting

<sup>9</sup> Results may vary depending on the circumstances, including but not limited to exam type and clinical practice. This analysis was performed on 3175 exams representing 17 different exam descriptions, collected from 4 different medical evaluation sites.



## Optimizing imaging operations (Cont.)

### Increase productivity and consistency (Cont.)

Leverage on-demand or scheduled virtual clinical applications training with GE specialists to support staff enabled by Digital Expert Access.

Resilient solutions, such as remote control function combined with 3 in-scan-room cameras, allow the technologist to fully operate the CT scanner without the need for interacting with patients during high-risk or critical times such as the pandemic.

### Reduce downtime

OnWatch™ and Tube Watch™ enable predictive services to digitally track key system metrics and detect any anomalies. They send proactive alerts to a remote engineer, who either makes the repair online or schedules a service call.<sup>10</sup>

- 75% reduction in tube related downtime
- 41% reduction of overall system unplanned downtime
- 36% of total onsite labor is planned

### 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.

<sup>10</sup> Results may not be typical of every customer's performance. Versus a break and fix model. Average planned labor hours are calculated by using all the proactive service requests initiated by the system with their associated planned downtime compared to the service requests initiated by the customer with associated unplanned downtime.



## 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 setup time

Streamline the patient setup with Auto Positioning. Starting with smart protocol selection and automated centering, simply click a button to automatically position your patient at the start location of the scan.

### Reduce exam time

21% savings for entire exam time with Effortless Workflow.<sup>11</sup>

66% reduction in clicks per CT exam with Effortless Workflow.<sup>12</sup>

### Ease of use

Utilizes AI technologies to automate nearly every step from pre-scan to post-scan to help reduce clicks and achieve exceptional efficiency.

### 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.

The validated cleaning and disinfection instruction manual can be downloaded on the [customer documentation portal](#) with document number 5881700-1.

<sup>11</sup> Compared to legacy GE CT scanners. Data based on comparison between GE's legacy products (16ch and 64ch scanner) and Revolution CT (ES) in the three institutions using a pilot product, with routine head and body selected. The data set of this comparison was 838 exams for legacy products and 1387 exams for Revolution CT (ES). The time-saving value may not be effective for all institutions depending on the clinical practice. Definition of entire exam time is from "Open new patient" to "Last primary recon completed" for Revolution CT (ES) and "Close exam" for legacy products.

<sup>12</sup> Compared to legacy GE CT scanners. Required clicks are defined as the number of clicks required to execute a scan, from selecting a new patient to start scan. The number of all associated required clicks for and in clinical practice may vary depending on the circumstances, including but not limited to the clinical task, exam type, clinical practice, and image reconstruction technique.



**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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