

Focusing on sustainability in computed tomography



Revolution™ Ascend



GE HealthCare

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 medicine, 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. GE HealthCare is committed to achieving net zero by 2050 and we have signed up to the Science Based Targets initiative (SBTi) business ambition for 1.5C, a group of visionary corporate leaders taking ambitious climate action, and we have committed to implementing science based targets. This includes a public goal to reduce operational emissions (scope 1 and 2) by 50% by 2030 against a 2019 baseline. 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 solutions.



We are committed to achieving net zero emissions by 2050.

We've set a public goal to reduce operational emissions (scope 1 and 2) by 50% by 2030.

Leading a new era in sustainability for a more resilient tomorrow

We're creating a world where healthcare has no limits, helping to improve access to care and enable better patient outcomes.



Environmental

Using fewer resources for a healthier planet.

Digital

Transforming healthcare through innovation.

Resilience

Building flexibility and dependability across healthcare systems.

Revolution™ Ascend helps create a more sustainable tomorrow

Our CT, Revolution™ Ascend, and its services help ensure clinicians and the patients they serve have the technology necessary to create a more sustainable and resilient tomorrow.

Reducing environmental impact

- Reduce energy consumption up to 15% when using Energy Savings Mode.¹
- Reduce energy consumption by 68% when using Energy Savings Mode (ESM) and by 62% when not using ESM compared to the previous generation CT.²
- 84% of materials used in the system are recyclable.³

Improving care

- Enhance your clinical outcomes by experiencing a new standard in image quality with TrueFidelity™.
- Ensure better comfort for users and patients with a 75cm wider bore design.
- Gain efficiency with a new standard in CT with Effortless Workflow.



¹ Compared to the same system not using Energy Savings Mode.

² Compared to the predicate product. Data on file.

³ 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.⁴ As a result, we have strengthened our commitment to environmentally conscious design and we are implementing more 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 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.
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We’re committed to environmental product design	This product conforms with IEC60601-1-9:2007.
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⁴ Health care climate footprint report | Health Care Without Harm (noharm-uscanada.org), based on 2019 report

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.

Recyclability

We’re committed to high recyclability of our products and reuse when possible.

84% of materials used in the system are recyclable.⁵

When we build a replacement X-ray tube for the Revolution Ascend, 60.1% of the mass of the X-ray tube is reused, helping to reduce energy use and the consumption of natural resources.⁵

Reduce the use of hazardous substances

EU RoHS directive 2011/65/EU

REACH (EC) 1907-2006

The Revolution Ascend gantry design does not use lead material as counterweight but instead uses steel, helping to improve production worker safety and reduce environmental impact.

⁵ Data on file.



Packaging and distribution

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

Product packaging⁶

The packaging materials consist of wooden pallets with cardboard overpack and plastic vibration absorbers.

73% Wood

24% Cardboard

3% Plastic

445kg Total package weight

Product transportation⁷

47% Air transport

10% Ocean transport

43% Truck transport

53% product transportation utilizes low environmental impact modes⁷

⁶ The values provided are based on the typical packaging at GEHC's CT manufacturing sites for the Revolution Ascend system.

⁷ 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. Ergonomic design can help to enhance health and potentially reduce environmental impacts, such as reducing waste and saving energy.

Ergonomically designed

Patient setup and positioning

AI-based Auto Positioning enables automatic landmark detection and identifies the scan range center automatically to ensure table positioning alignment. The scanner uses the scan range center information and automatically aligns this to isocenter of the gantry.

Automatic table elevation and cradle movement into the gantry completed with one simple click—no need to use positioning buttons on the gantry.

Reduce staff burden

Intelligent Protocols uses machine learning to automatically suggest a protocol for each exam. Learning from each site's individual behaviors, Intelligent Protocols reduces the time spent searching for protocols and may help in reducing errors in protocol selection.

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



Product utilization *(cont.)*

Reduce energy consumption

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	Save 15% of energy consumption when using Energy Savings Mode.⁸ Reduce energy consumption by 68% when using Energy Savings Mode compared to the previous generation CT.⁹
Power consumption¹⁰	Scenario – Off: 31kWh Scenario – Idle: 41kWh Scenario – Low Power: 37kWh

⁸ Compared to the same system, not using Energy Savings Mode.

⁹ Compared to previous generation CT system.

¹⁰ Per COCIR Self-regulatory initiative for medical imaging equipment, over a 24-hour period, with 12 hours of active day and 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 support for upgrades and services throughout a product's lifespan, when available, 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 remaining parts are returned to dedicated recycling facilities.

Guidance for end of lifecycle

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

Upgradeable hardware and software options are provided as a solution to extend the product lifespan.

Revolution Ascend offers multiple upgrade options to extend the lifespan of the system, including upgrading from 64 to 128 slices.

Software upgrades are also available, such as TrueFidelity, our deep learning image reconstruction. Utilize Smart Subscription to help 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 through the refurbishment program, in which they are assessed for refurbishment, harvesting, or recycling at the appropriate time in the lifespan.¹¹

94–96% of most systems are reused, refurbished, or recycled, extending the lifetime of each product.¹¹

Waste reduction

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

¹¹ 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 more 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.

Helping clinicians advance patient 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 for quicker decision making

Whenever there is residual motion in the coronary arteries, let SnapShot Freeze 2 go to work in further reducing the motion within the vessel. Minimize the motion within the structures of the heart, and further improve image quality of anatomy that is constantly in motion.

A reproducible method for segmenting the liver guided workflow, DL Hepatic VCAR can help in assessing the complete liver anatomy to assist in surgical planning and lesion evaluation.

Musculoskeletal studies are made simpler with automated spine labeling by DL Bone VCAR.

Automate detection of lung nodules with digital contrast agent Lung VCAR.

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



Helping clinicians advance patient outcomes *(cont.)*

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.

Enhancing image quality

Use up to 82% lower patient dose with ASiR-V™ with the same image quality.¹²

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.

Drive advancements of precision health

While the CT scan itself is the fastest in diagnostic imaging, the sequence from referral to report needs to be faster to meet procedure volume. To accomplish that, we have redefined the entire CT experience with Revolution Ascend, a 75cm wide-bore CT system making the CT process faster, more intuitive, and approachable while providing the image quality you expect.

With an AI-based workflow, smart user interface, and cutting-edge technology, Revolution Ascend substantially simplifies, streamlines, and automates the CT experience.

¹² 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.¹³

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.

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

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

¹³ 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.)*

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.

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

Reduce downtime

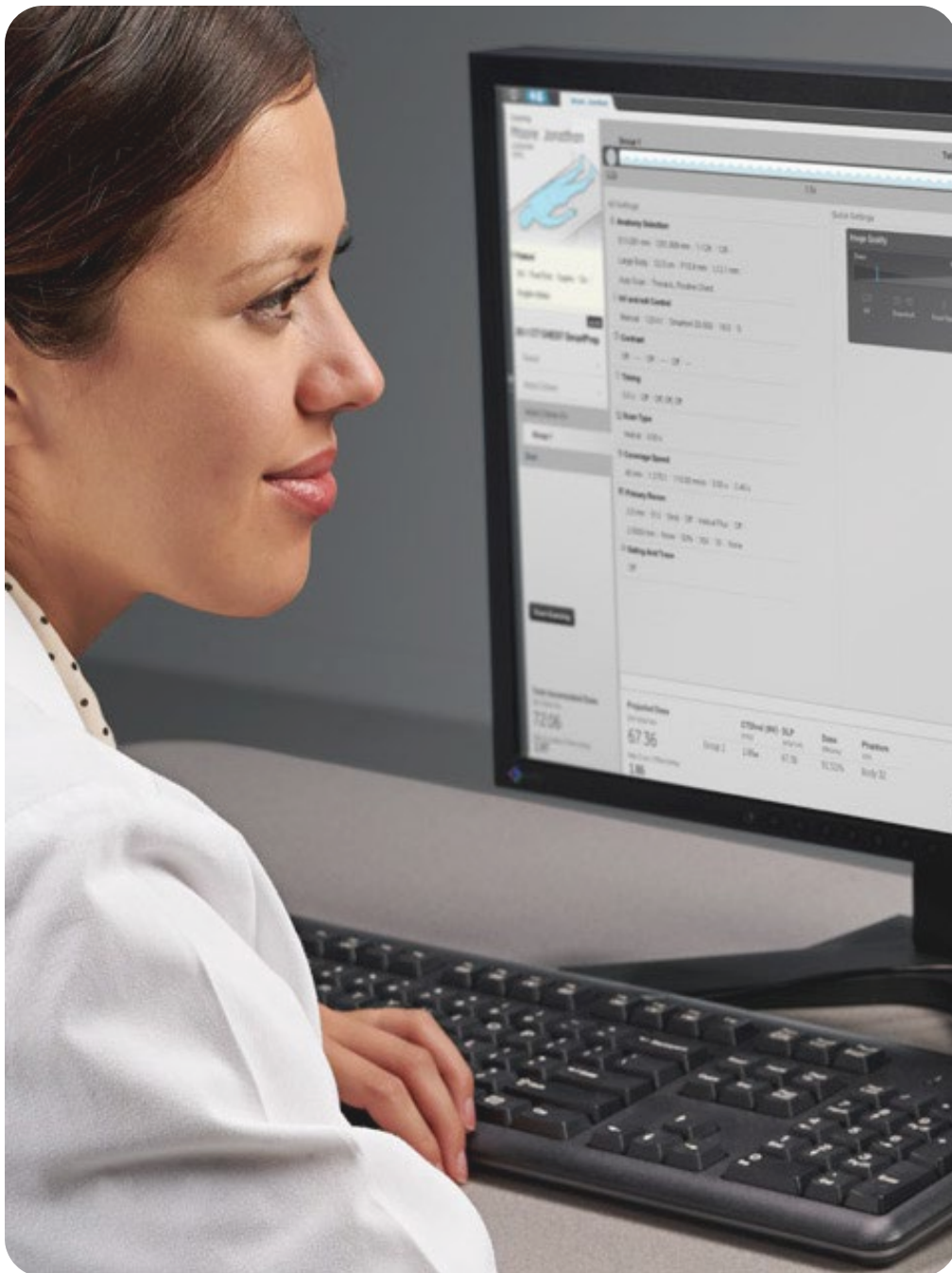
OnWatch™ and Tube Watch™ enable predictive services to digitally track key system metrics and detect any anomalies. They send proactive alerts to a remote engineer, who either makes the repair online or schedules a service call.¹⁴

- 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.

¹⁴ 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.

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% reduction in entire exam time with Effortless Workflow¹⁵

66% reduction in clicks per CT exam with Effortless Workflow¹⁶

56% reduction in scan setup with Effortless Workflow¹⁷

¹⁵ Compared to legacy GE HealthCare CT scanners. Data based on comparison between GE HealthCare's legacy products (16ch and 64ch scanner) and Revolution Ascend 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 Ascend. 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 Ascend and "Close exam" for legacy products.

¹⁶ Compared to legacy GE HealthCare 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.

¹⁷ Compared to legacy GE HealthCare CT scanners. Data based on comparison between GE HealthCare's legacy products (16ch and 64ch scanner) and Revolution Ascend 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 Ascend. The time-saving value may not be effective for all institutions depending on the clinical practice. Definition of scan setting time is from "Open new patient" to "Confirm setting for scout."



Enabling intelligent exam workflows *(cont.)*

Ease of use

Seamlessly multi-task with Clarity Operator Environment, leveraging the task list during scan setup to plan ahead and automate repetitive tasks, such as reconstructions, image transfer, image processing, and more.

SmartPlan automatically recommends the scan range from the patient scout based on the clinical indication of the scan protocol, for a faster and more standardized workflow.

Use Auto Prescription for an automated workflow and personalized scanning.

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.



Creating a healthy world to help enable better patient outcomes.

GEHealthCare.com/about/sustainability

Not all products or features are available in all geographies. Check with your local GE HealthCare representative for availability in your country. Commercial availability of GE HealthCare medical systems is subject to meeting local requirements in a given country or region. Not all features are included in the standard system configuration. Contact a GE HealthCare representative for more information. Intended for healthcare professionals only.

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