Sustainable computed tomography solutions for a resilient tomorrow

Revolution™ Apex Platform

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.

The Revolution™ Apex platform helps create a resilient tomorrow

Our CT, Revolution™ Apex platform, 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

- 85% of materials used in the system are recyclable.[1]
- Our CT systems are built with scalability and upgradability to help prevent technology obsolescence and advance clinical capability.
- 94–96% of most systems are reused, refurbished, or recycled, extending the lifetime of each product.*

Improving outcomes

- Exceptional technology in every dimension of the CT imaging chain
- Unprecedented clinical solution across a wide range of care areas
- Future-ready platform helps to ensure quick access to the next generation of CT innovation

[1] Data on file
* 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.

Contributing to a healthier planet

More than half of the healthcare sector's climate footprint, approximately 53%, is attributable to energy use.[2] 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.

[2] Health care climate footprint report | Health Care Without Harm (noharm-uscanada.org)

Materials

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

Recyclable	85% of materials used in the system are recyclable.[3]
	When we build a replacement X-ray tube for the Revolution Apex platform, 35.2% of the mass of the X-ray tube is reused, helping to reduce energy and natural resources.[3]
Reduce the use of hazardous substances	EU RoHS directive 2011/65/EU
	REACH (EC) 1907-2006
	The Revolution Apex platform 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.[4]

[3] Data on file.

Packaging and distribution

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

Improved packaging[4]	The packaging materials consist of wooden pallets with cardboard overpack and plastic vibration absorbers. Wood: 74% Cardboard: 23% Plastic: 3% Total package weight: 751kg
Product transportation[5]	Air transport: 47% Ocean transport: 10% Truck transport: 43%

53% product transportation utilizes low environmental impact modes[6]

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.
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.
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).[6]

[4] The values provided are based on the typical packaging at GEHC's CT manufacturing sites for the Revolution Apex platform.
[5] The values provided are based on product transportation and distribution during 2021.

[6] 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[7]	Scenario – Off: 46 kWh Scenario – Idle: 92 kWh Scenario – Low Power: 74 kWh

[7] 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.

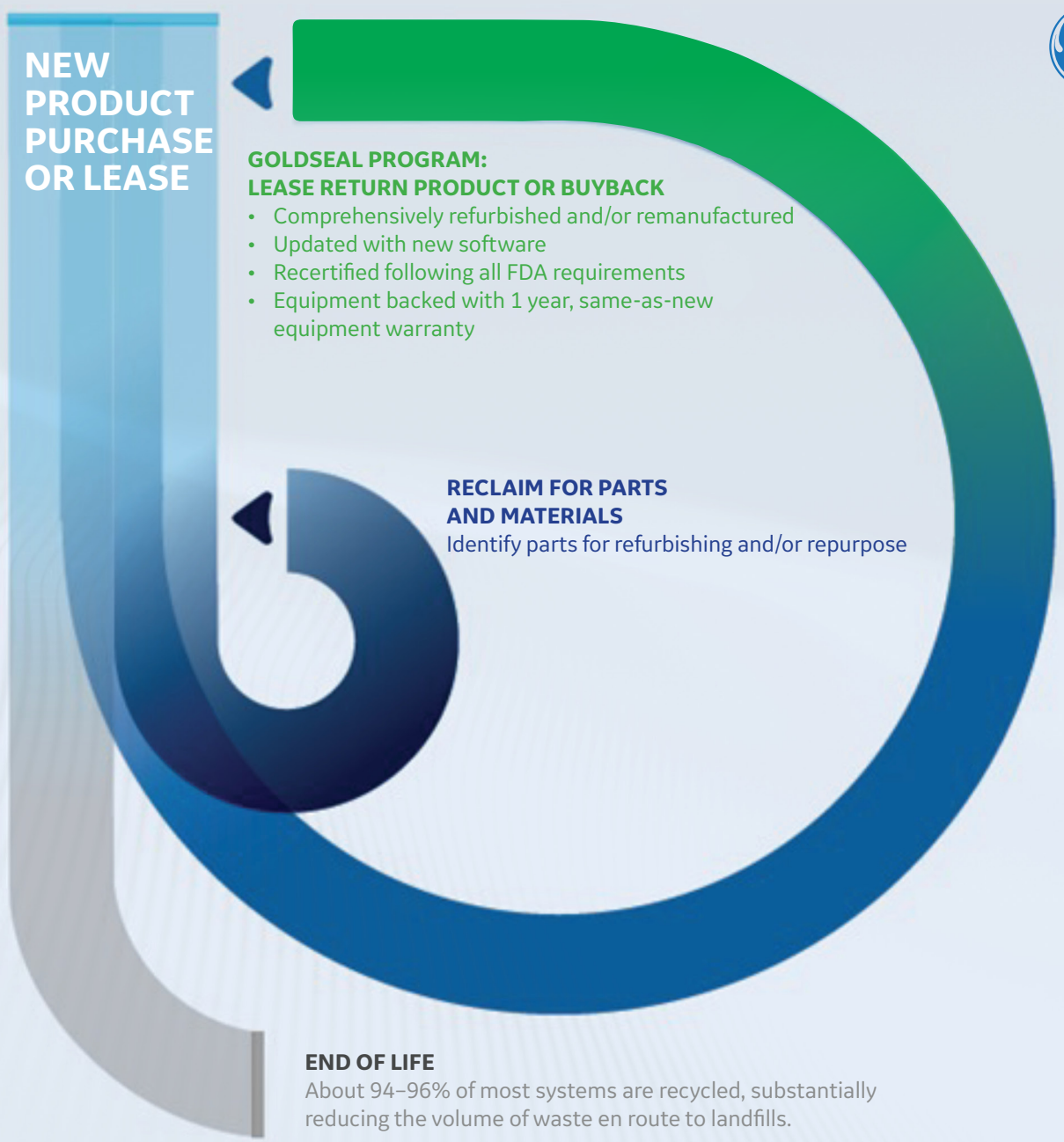
Our refurbishment programs involve an extensive inspection and testing process, designed to bring equipment back to its original certified manufacturing specifications. If the system is not suitable for refurbishment, eligible parts are harvested for reuse after quality and performance testing, while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

Guidance for end of lifecycle	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.	Revolution Apex platform offers multiple upgrade options to extend the lifespan of the system, including: • Onsite upgrades from 40 mm detector coverage to 80 mm or 160 mm without swapping the gantry. • 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.
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.[8] 94–96% of most systems are reused, refurbished, or recycled, extending the lifetime of each product.[8]
Waste reduction	This system is in accordance with Waste Electrical and Electronic Equipment (WEEE) regulations.

[8] 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.



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.

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.
Gain actionable clinical insights quicker for earlier diagnosis	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.

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.[9]

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.

Remote diagnostics and predictive analytics solutions to streamline your needs:

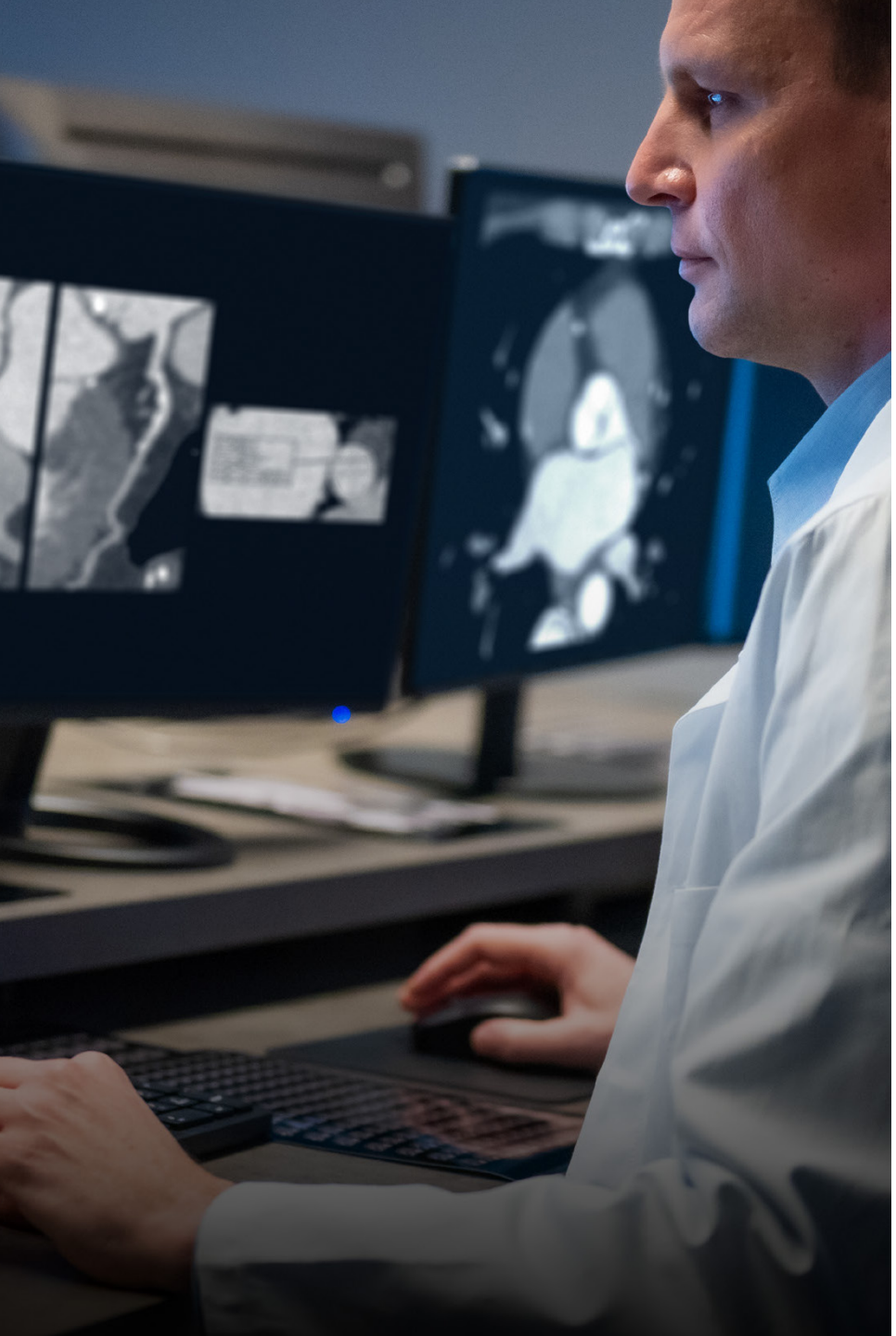
- Enable software updates, reducing the need for on-site support
- Secure serviceability, review, and system troubleshooting

[9] 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. GE Healthcare cannot guarantee these or similar results.

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.
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.[10] • 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.

[10] 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.[11]
	66% reduction in clicks per CT exam with Effortless Workflow.[12]

[11] Compared to legacy GE CT scanners. Data based on comparison between GE's legacy products (16ch and 64ch scanner) and Revolution Apex platform 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 Apex platform. 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 Apex platform and "Close exam" for legacy products.

[12] 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.

Enabling intelligent exam workflows (Cont.)

Ease of use

- Intelligent protocoling utilizes machine learning to intelligently suggest the relevant protocol.
- Auto Positioning provides automated patient positioning and scout range display.
- Auto Prescription automatically adapts scan parameters to patient size and clinical indication for optimal dose optimization and desired image quality.
- Smart DMPR generate consistent and anatomically relevant reformats. AutoSend them to a designated destination such as PACS or workstation.

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.

The validated cleaning and disinfection instruction manual can be downloaded on the *customer documentation portal* with document number 5881700-1.

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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