GE Healthcare

WORLDWIDE PARTNER

Optima* CT660

Second Edition

Built for speed

an innovation of
healthymagination

Your vision of quality care made real

The Optima CT660 system helps you deliver competent, personalized care that helps fulfill your mission and please your patients.

One look at the sleek, modern design tells you this CT system is different. This new-generation, intelligent Volume CT scanner combines the advanced innovations from our Discovery* and LightSpeed* families.

You get **fast, high quality acquisition at optimized dose** for patients young and old, large and small, across a wide spectrum of procedures: cardiac, angiography, brain, chest, abdomen, orthopedic, and more.

Technologists and radiologists benefit from ergonomic features and numerous enhancements in workflow efficiency and diagnostic power. The compact footprint lets the system fit your available space, while a modular design helps you choose capabilities to meet today's budget and expand as you grow.

The Optima CT660 is also environmentally friendly with a design for refurbishment and end-of-life recycling, and with electronics innovations that may cut power consumption compared to previous GE technology up to 60 % using the energy saving mode.

Look closely and you will see how the Optima CT660 is designed to help you provide great care to your patients by delivering low dose, high quality imaging.

Innovations with a 40mm detector at 0.35 sec rotation speed.

Up to 60% lower CO_2 emissions using the energy saving mode.

128 slice axial reconstruction** and AELA+ technology for improved visual resolution.

ASiR*** and ODM+ technology for low dose exams°.

VISR+ for reducing pixel noise standard deviation.

Exceptional Emergency care with high helical pitch and simplified workflow.

DEXUS** thin client for Seamless Workflow.

The power of technology, ease of use.

The Optima CT660 brings you our latest CT innovations for improved ease of use and full capabilities in advanced applications such as cardiac, oncology, angiography, and dynamic imaging.

STRONG

Power and performance

The Performix* 40, backed by a powerful 72kW generator, delivers peak mA capability of up to 600 mA.

When imaging the same object, the Optima CT660 system with ASiR may deliver pixel noise standard deviation equivalent to a higher mA (800mA at 120kV) acquisition such as that delivered by a higher power generator (96kW).

This can help you:

- Image small structures and see fine detail.
- Examine large patients without compromising quality imaging or speed.

The console is built with advanced computer technology and miniaturization for optimized workflow, fast image reconstruction up to 55 fps in real time recon mode, and improved reliability. The quad-core CPU, supported by 24 GB RAM, easily processes advanced iterative reconstruction exams. Simultaneous data transfer helps optimize and streamline workflow between the Advantage Workstation* PACS, and external devices such as CD/DVD/USB writers.

Efficient imaging

The 40mm wide **V-Res* detector** acquires data at 0.35mm microVoxel* resolution through GE innovations, such as:

- A fast and efficient HiLight* scintillator with 98% absorption efficiency.
- High-density interconnects.

The Optima CT660 image chain is powered by the **Volar*XT Data Acquisition System (DAS).**

FAST

Speed and coverage

GE helical reconstruction technologies and crossbeam correction work together to enable fast routine scanning of up to 70 cm in 6 seconds while delivering 0.35 mm isotropic spatial resolution.

This is achieved by using IQE to boost the pitch to a high helical pitch of 1.531[+] to reduce the helical artifacts.

For cardiac acquisitions, fast rotation speed provides excellent temporal resolution (44 msec).

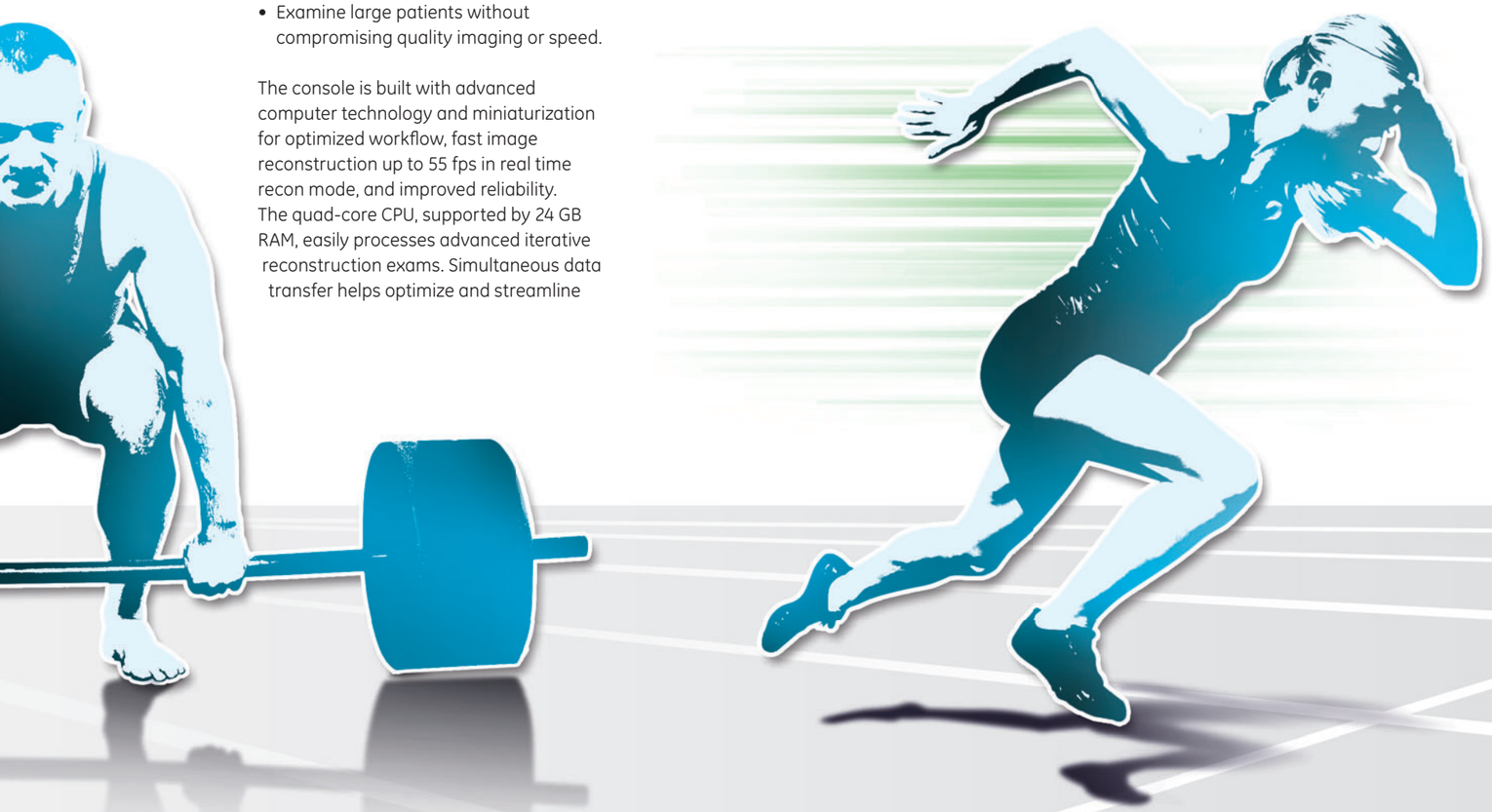
HIGH

Adaptive Enhance Level Adjustment

(AELA) kernel[+], is leveraging the new technology in reconstruction algorithms to avoid potential tradeoffs between artifact and excellent visual spatial resolution.

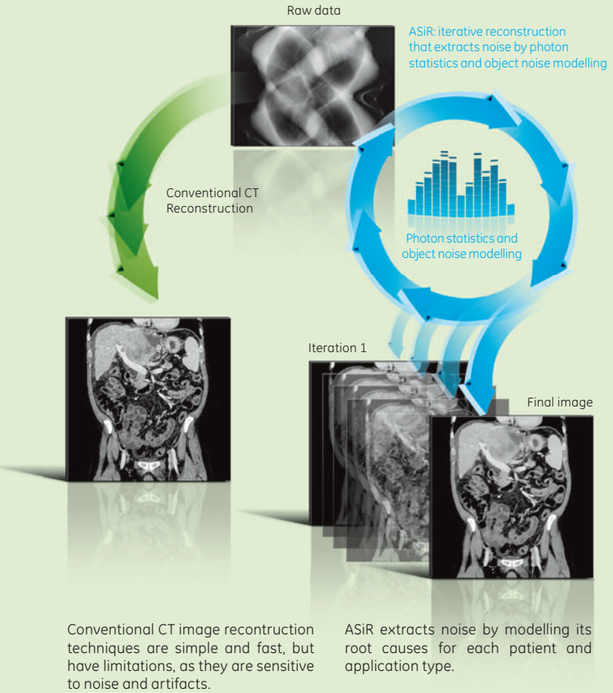
128 slice overlapped reconstruction feature**

enables 128 slices per rotation in axial scanning modes and delivers improved Z-axis visualization performance relative to non-overlapped reconstruction.
(For 32 slice version, it enables 64 slices per axial rotation).



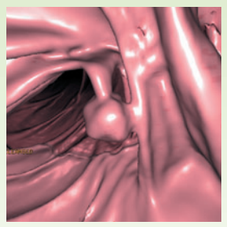
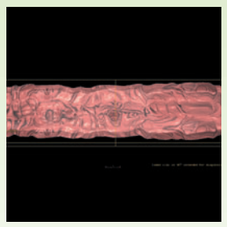
Balance between Low Dose and Diagnostic Image Quality

Nothing matters more than patients' welfare.
The Optima CT660 provides information to clinicians
to help them make efficient and definitive diagnoses.



Conventional CT image recontruction techniques are simple and fast, but have limitations, as they are sensitive to noise and artifacts.

ASiR extracts noise by modelling its root causes for each patient and application type.


SMART

ASiR inside: A leap ahead in dose management

ASiR may help clinicians achieve dose reductions of up to 40% while delivering the diagnostic image quality needed for confident diagnosis°. It may also improve low contrast detectability**.

ASiR, a projection based iterative reconstruction technology, changes the dose paradigm across many anatomies and patients. Based on our customers' experiences using ASiR technology, they have demonstrated excellent diagnostic image quality at low dose across exam types and body regions.

Optidose

Dose reduction with ASiR is combined with GE's proven Optidose* technologies that deliver dose reduction at the source. It includes SmartTrack* dynamic collimation that keeps the X-ray beam tightly focused on the active detector cells, as well as Dynamic Z-Axis tracking+ which blocks unused X-ray at the beginning and at the end of helical scan. Volume Image Space Reconstruction (VISR)+ techniques are highly optimized to improve Image Quality at lower dose.

Organ Dose Modulation

In addition to the 3D and ECG mA modulation features, Optima CT660 introduces Organ Dose Modulation+. The ODM provides reduction of radiation dose via X-ray tube mA modulation for superficial tissues, such as breasts, crystal lens, etc.

Dose check

Provides tools to notify and alert the operator setting the scan parameters, prior to scan start, whether the estimated dose index is above user defined, notification values. The dose check feature is designed to comply with the NEMA XR-25-2010 standard.

Swift workflow

By listening to technologists and radiologists, GE has created an intelligent CT scanner with a workflow for streamlined use that helps optimize patient throughput.

Enhanced Table

The VT2000** allows patients, weighing up to 227 kg, to be imaged through a long scannable range. The Default Patient Positioning provides semi-automatic positioning according to the type of exam, reducing manual positioning and streamlining workflow. The Xtream Display shows pictures that help operators understand the correct exam position.

Synchronized Injection

Xtream Injector** provides synchronized start of scan and injection from the CT operator console. Synchronization of the start of scan with the start of injection provides increased opportunity for successful contrast bolus timing. Enhanced Xtream Injector** also provides the ability to set the contrast injection parameters and to synchronize the parameters between the scanner and injector as part of the CT scan protocol from the console interface. This provides consistency of user entered parameters and potentially reduces the opportunity for error.

User-friendly Console

The Optima CT660 workspace provides flexibility and comfort. The console is noticeably quieter to provide an enhanced work environment. The graphical user interface, common to all GE CT systems, puts automated processing at your fingertips.

Environment Integration

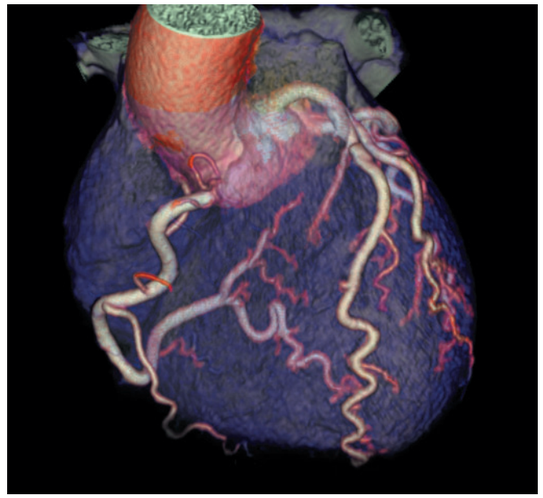
Your console can be equipped with the thin client, giving you access to AW Servers. This multiplies your possibilities to leverage the DEXUS workflow environment and benefit from a seamless integration of your applications.

One touch Protocols

One-Touch set ups allow you to personalize image presentation to individual physician preferences; so that advanced processing, volume-rendering attributes, multi-planar reformats, and image sizing are automatically applied as the patient series opens.

Imaging power for your most critical studies

The Optima CT660 helps radiologists to perform a wide range of advanced studies efficiently, while optimizing dose.



5 heart-beat exam with 80 kV / 70 mAs

Cardiovascular: Comprehensive solutions for heart and vessels assessment

Delivering true 40 mm coverage per rotation, featuring a temporal resolution down to 44 ms, the Optima CT660 is designed to scan the heart in as few as five beats. Its ample tube power combined with ASiR delivers the diagnostic imaging demanded, even with large patients.

Snapshot* Pulse with Adaptive Gating

With the X-rays turned on only during the required cardiac phase, the technique can reduce dose up to 83% compared to traditional helical techniques. Real-time adaptive scan control helps avoid scanning during irregular beats and improves overall scan reliability. DEXUS cardiology applications include reliable coronary segmentation and tracking and fully automated analysis of four heart chambers.

CT Angiography: Speed and consistent quality

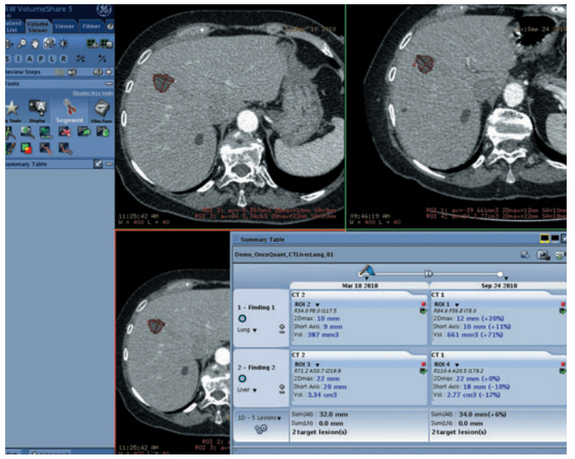
With consistent 0.625mm data acquisition, there is no trade-off between speed and high resolution. Optima CT660's speed and coverage may allow you to capture the arterial phase for assessment of most vascular segments. Xtream Injector allows you to synchronize injection and acquisition parameters.

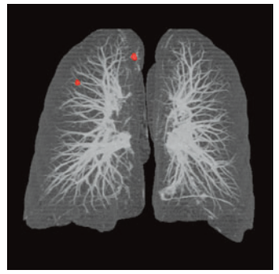
With Autolaunch and Preprocessing, the system automatically prepares up to eight cases for reading, saving substantial time. In addition, zero-click bone removal automatically subtracts bones in angiography studies featuring automatic vessel tracking and thrombus segmentation.

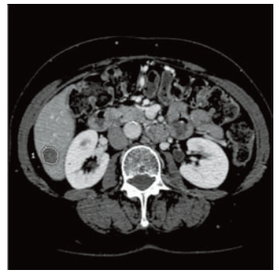
Oncology: Detect, characterize and quantify lesions

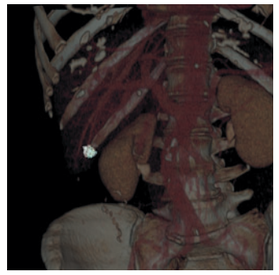
The Optima CT660 with the DEXUS oncology solution streamline your workflow for lesion detection, analysis and follow-up.

The **OncoQuant** platform provides robust tools for routine oncology diagnosis, treatment follow-up and clinical trial management. It includes a kit of tools to facilitate routine quantification (RECIST 1.0, 1.1 and WHO) and review of data from CT, MR, PET/CT and 3D X-ray imaging over multiple time points.









LungVCAR and ColonVCAR applications provide highly sensitive computer-aided reading to outline, contour and characterize lesions and to follow changes over time. Liver lesion and lymph node analysis and follow-up are facilitated by auto-segmentation tools and registration algorithms that let you match datasets from CT, MR and PET/CT.

Advanced applications for emergency and dynamic studies

The Optima CT660 provides extended coverage for emergency and dynamic imaging with high helical pitch of 1.531+ as well as the innovative VolumeShuttle* and Volume Helical Shuttle applications.

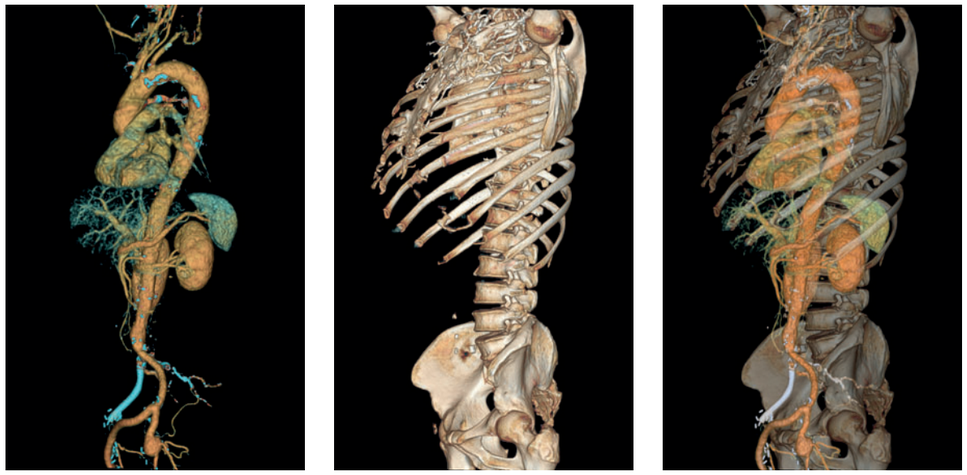
Emergency care: When seconds count

In addition to 40 mm coverage and fast rotation, dedicated exceptional features help you launch and finish emergency exams efficiently.

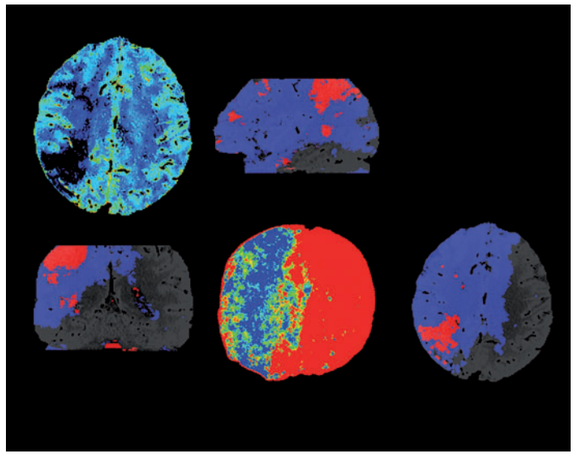
- Emergency Scanning Mode+ lets technologists set up exams with intuitive symbols.
- The technologist semi-automatically positions the table for the chosen exam using the touch screen and foot pedal.

The patient can be scanned in a few seconds. In addition, simultaneous image acquisition, reconstruction and analysis accelerate the workflow. Anatomy-specific protocols provided on the operator console facilitate efficient review.

The protocol can be selected from the gantry in order to improve workflow in emergency situations. Real time reconstruction+ enables you to confirm that you are covering the region of interest.

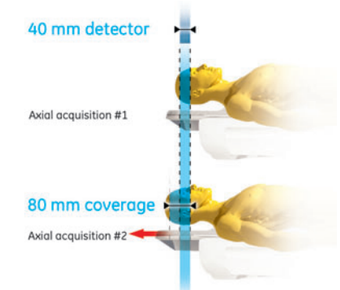


5 sec Chest-Abdomen-Pelvis submillimeter acquisition



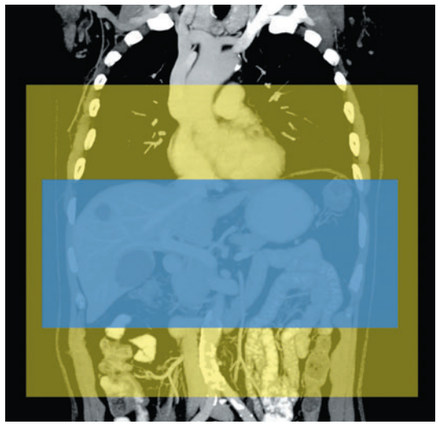
VolumeShuttle**: Twice the coverage with less dose

VolumeShuttle doubles the acquisition coverage to 80 mm while delivering less dose as a result of having the X-ray turned off during the table movement. CT Perfusion application seamlessly provides all the perfusion maps needed for assessment.

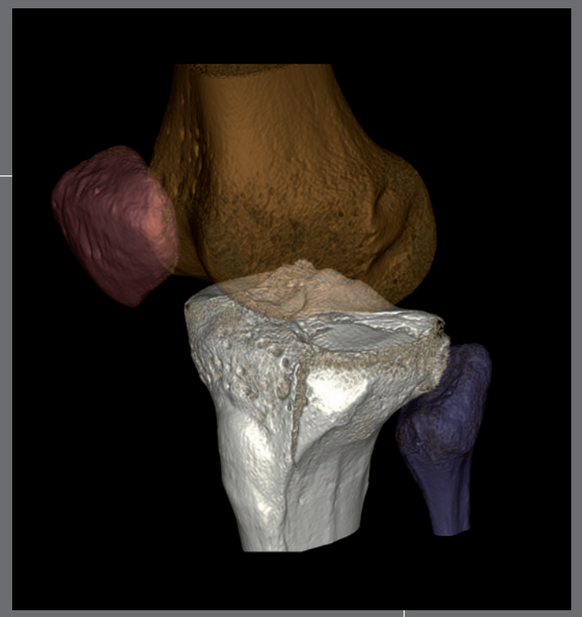


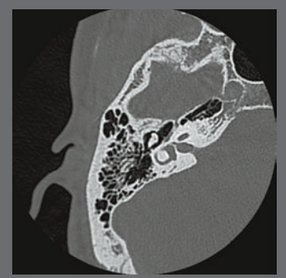
Volume Helical Shuttle: Cover up to 500 slices

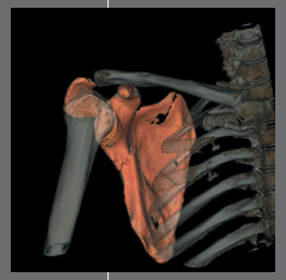
Volume Helical Shuttle** is a continuous bi-directional scan mode that extends Z-coverage while providing reliable temporal sampling. GE's exceptional dynamic pitch reconstruction uses scan data acquired during table acceleration and deceleration, allowing you to perform up to 500-slice (312.5mm) dynamic studies. This tool is used on Optima CT660 to perform 4D-CTA dynamic studies, or to study moving joint structures, opening new applications in orthopedic imaging. In addition, Volume Helical Shuttle lets you perform perfusion studies of body organs up to 120mm.

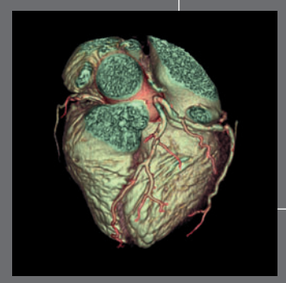


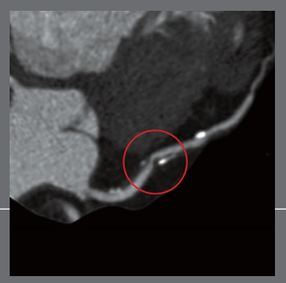
Spatial resolution



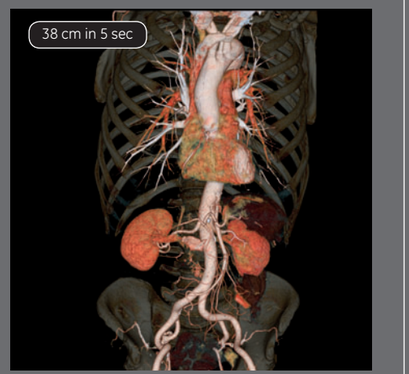


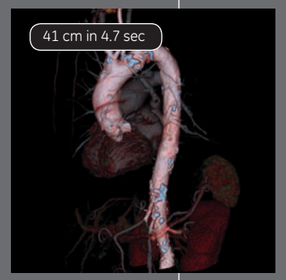


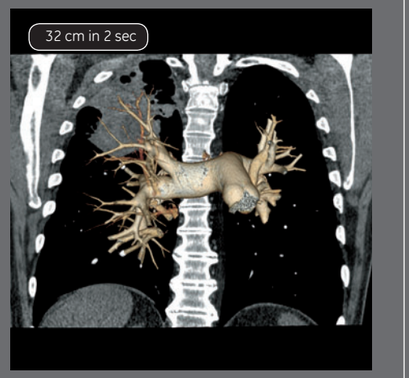


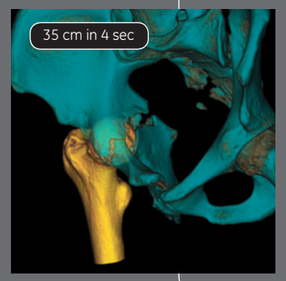


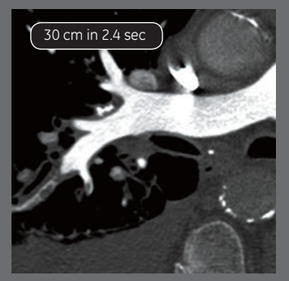
Acquisition speed



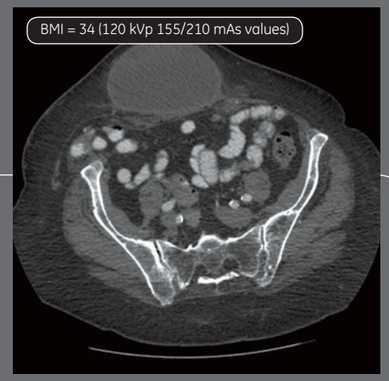


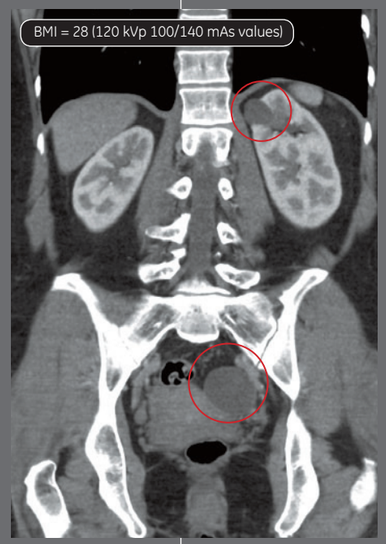


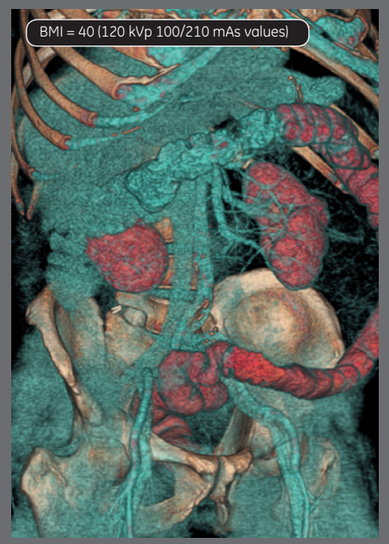


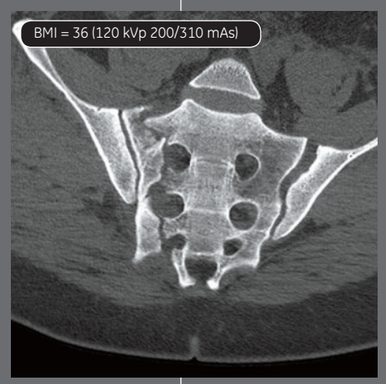


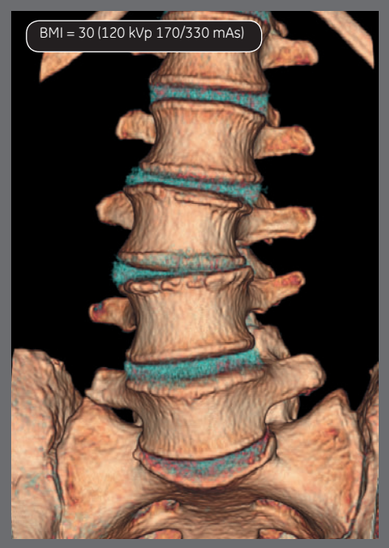
Power and performance

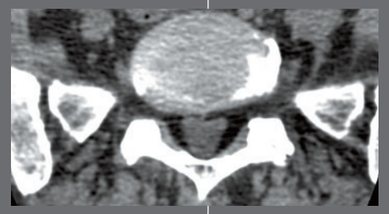




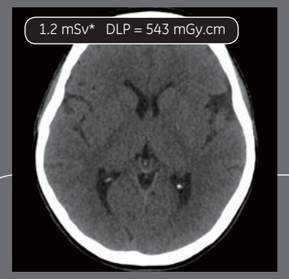


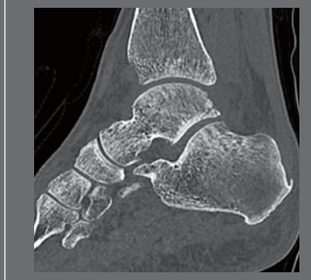




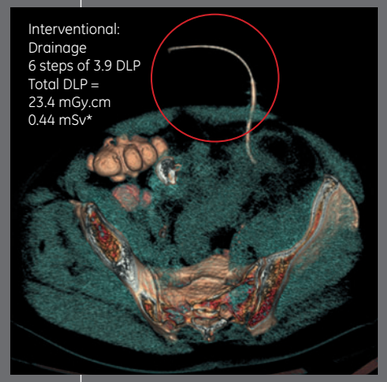


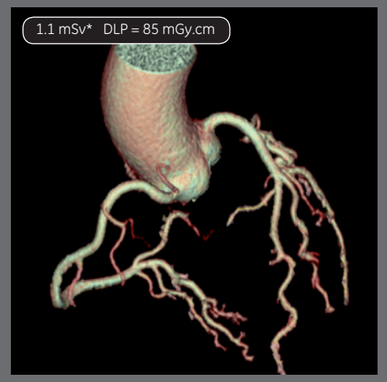
Dose optimization

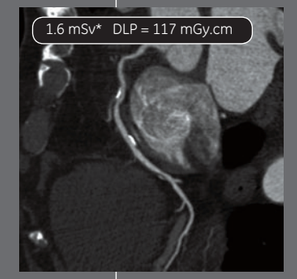


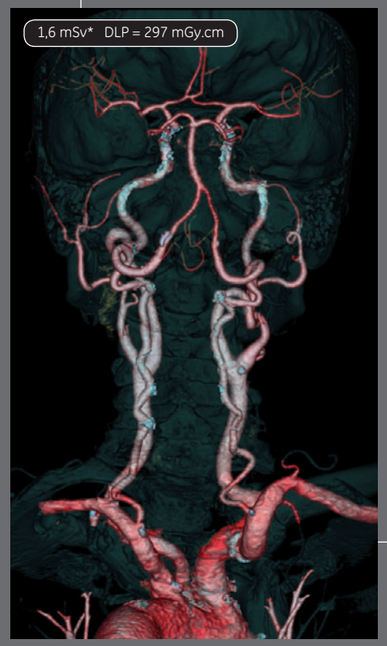


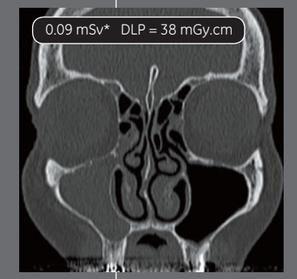
* Obtained by EUR - 16262 EN, using following factors:
Head: 0.0023 * DLP
Neck: 0.0054 * DLP
Cardiac: 0.014 * DLP
Chest: 0.017 * DLP
Abdomen: 0.015 * DLP
Pelvis: 0.019 * DLP

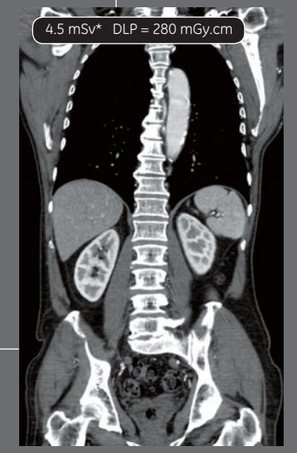












Optima CT660 enhanced by DEXUS

All in one...

Introducing Dexus*, one seamless workflow environment that optimizes your reading experience and productivity, from the moment you acquire the image until you report your results. Dexus links imaging devices, clinical applications, and IT, so you can access advanced visualization tools across modalities and care areas from where you are. Built on the trusted GE AW and Centricity platforms, Dexus takes your reading workflow to a new level of efficiency.

... one for All

As integral parts of the Dexus environment, AW Workstation and AW Server provide the portal to a broad portfolio of robust, easy-to-use clinical applications. By streamlining post-processing and synergizing imaging techniques, it answers productivity needs across CT, MRI, PET, SPECT, and Interventional. Meanwhile, the AW Server converts virtually any PC, laptop, or PACS desktop to a 2D, 3D, and 4D post-processing workstation. Now you can remotely review and share images in real time, enabling close collaboration with internal clinicians, stronger referring physician partnerships, more confident diagnoses, and better patient care. Simply put, Dexus brings you what you need, when you need it, where you are, whoever you work with.

*Dexus is a trademark of General Electric Company

Respecting our planet and you care environment

The Optima CT660 embodies the GE commitment to affordable technologies that make quality care available to more people, help make clinicians more efficient, in an environmentally conscious manner.

The Optima CT660 is among the world's most energy efficient Volume CT systems. It helps optimize your investment through 60% lower energy consumption, up to 24% smaller overall footprint and, most importantly, the potential for high patient throughput. Proven components in the detector and other critical systems help maintain high uptime.

Built for today and tomorrow

GE Healthcare offers complete service plans and innovative technologies that help keep your Optima CT660 online today – and up to date for the future.

One touch: Help is on the way

Your Optima CT660 comes with a broadband connection that lets GE experts diagnose problems and fix your system often without having to visit your site GE iLinq* service lets you summon technical or applications help at the touch of a button on your console screen And when you contact us with an urgent concern, we connect you to an engineer with expertise on your system in five minutes or less... When a site visit is needed, your field engineer arrives with knowledge of the issue, and in most cases replacement parts needed to get you back on schedule.

Getting more from your assets

The iCenter* web-based asset management tool gives you on-demand access to critical information about your Optima CT660 and other imaging devices, helping you maximize efficiency and productivity. Vital information delivered to your desktop – scanner utilization, open work orders, service history, and much more – empowers you to make sound operating decisions.

Learning tools to build your skills

A wide range of learning tools help your imaging professionals use your Optima CT660 and its advanced imaging capabilities to their full clinical potential. Our CT Masters series, offered on your site or at our training facilities, includes a comprehensive range of courses in advanced applications taught by CT experts. Our AppsLinq* service lets your people troubleshoot application issues, improve imaging techniques, and develop vital new skills, all by way of distance learning and on a flexible, convenient schedule.

Discover the power

The Optima CT660 system helps your clinicians deliver high-quality, comfortable, personal patient care in a scalable, flexible package you can tailor to your needs. Find out how the Optima CT600 can benefit your facility. Contact your GE Healthcare representative today.

Marketing Communications GE Medical Systems
Société en Commandite Simple au capital de 63.875.865 Euros
RCS Versailles B 315 013 359
A General Electric company, doing business as GE Healthcare

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** option.

*** ASiR (Adaptive Statistical Iterative Reconstruction): is a reconstruction technology that may enable reduction in pixel noise standard deviation. The ASiR reconstruction algorithm may allow for reduced mA in the acquisition of diagnostic images, thereby reducing the dose required.°

° In clinical practice, the use of ASiR 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.

\+ Features of Optima CT 660 are not available to market or for sale in the United States.

Some configurations and options of Optima CT 660 may not be available to market or for sale in some countries.

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About GE Healthcare

GE Healthcare provides transformational medical technologies and services that are shaping a new age of patient care. Our broad expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, biopharmaceutical manufacturing technologies, performance improvement and performance solutions services help our customers to deliver better care to more people around the world at a lower cost. In addition, we partner with healthcare leaders, striving to leverage the global policy change necessary to implement a successful shift to sustainable healthcare systems.

Our "healthymagination" vision for the future invites the world to join us on our journey as we continuously develop innovations focused on reducing costs, increasing access and improving quality around the world. Headquartered in the United Kingdom, GE Healthcare is a unit of General Electric Company (NYSE: GE). Worldwide, GE Healthcare employees are committed to serving healthcare professionals and their patients in more than 100 countries. For more information about GE Healthcare, visit our website at www.gehealthcare.com.

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