Revolution Ascend

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Faster workflow, clearer images

The number one challenge faced by CT departments worldwide is finding a way to efficiently manage increased CT procedure volume. Even though the CT scan itself is the fastest in diagnostic imaging, the sequence from referral to report needs to be faster to meet the challenge. To accomplish exactly that, we have redefined the entire CT experience with Revolution™ Ascend, a 75 cm wide-bore CT system that makes the CT process faster, more intuitive and more approachable, while also providing the image quality you expect.

Revolution Ascend uses an AI-based workflow solution, a smart user interface, cutting-edge technology and access to Smart Subscription to substantially simplify, streamline and automate the entire CT experience from both inside and outside the scan room.

more room inside the gantry for better patient access and comfort[1]

reduction in clicks for a faster and more automatic workflow[2]

image noise reduction by ASiR-V compared to FBP at the same dose, depending upon the scan technique and reconstruction parameters[3]

Revolution

Revolution
PAUSE
PAUSE

Redefining clinical performance

The most time-consuming part of the CT experience isn't the scan itself, but the steps that fall outside the scan such as patient prep and recon to report time.

We analyzed all of the pre-scan and post-scan steps in the CT experience and incorporated our key findings into the design of Revolution Ascend.

As a result, Revolution Ascend solves common concerns like the ability to efficiently accommodate high BMI patients and interventional procedures. It also enables easy two button scanning for all imaging.

Revolutionizing CT from referral to report

We are always seeking out new ways to boost operational efficiency with the goal of making your imaging workflow feel like second nature, possibly even invisible. When it comes to CT, we studied the entire workflow and created solutions to simplify and streamline each step of the process.

These solutions are the core of our Effortless Workflow model, a sophisticated collection of technologies that automate and simplify time-consuming tasks from pre-scan to post-scan. Effortless Workflow takes the CT experience to a new level of speed and precision.

Effortless Workflow

Pre-scan

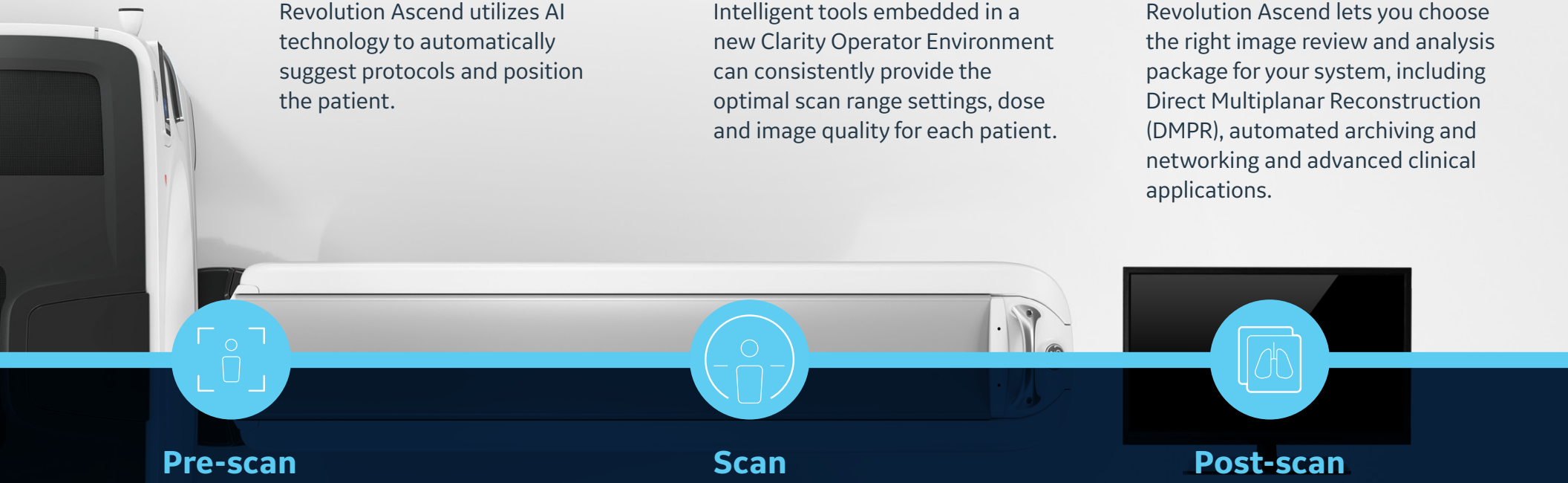
Revolution Ascend utilizes AI technology to automatically suggest protocols and position the patient.

Scan

Intelligent tools embedded in a new Clarity Operator Environment can consistently provide the optimal scan range settings, dose and image quality for each patient.

Post-scan

Revolution Ascend lets you choose the right image review and analysis package for your system, including Direct Multiplanar Reconstruction (DMPR), automated archiving and networking and advanced clinical applications.



Pre-scan

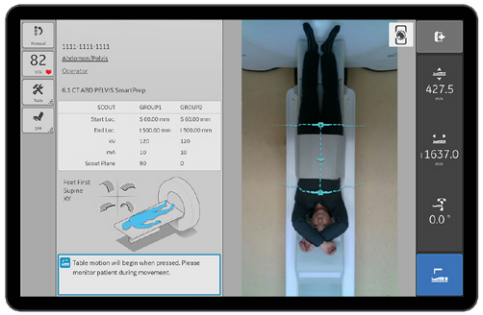
- Intelligent Protocoling
- Auto Positioning

Scan

- Smart Plan
- Auto Prescription

Post-scan

- Automated post-processing tools



Effortless Workflow includes AI-based features such as Intelligent Protocoling and Auto Positioning in addition to automated features such as Smart Plan, Auto Prescription and automated post-processing tools on the console. These intelligent applications are a key component of what transforms the CT experience, enabling Revolution Ascend to accurately and automatically personalize scans for each patient while requiring significantly less effort from the technologist.

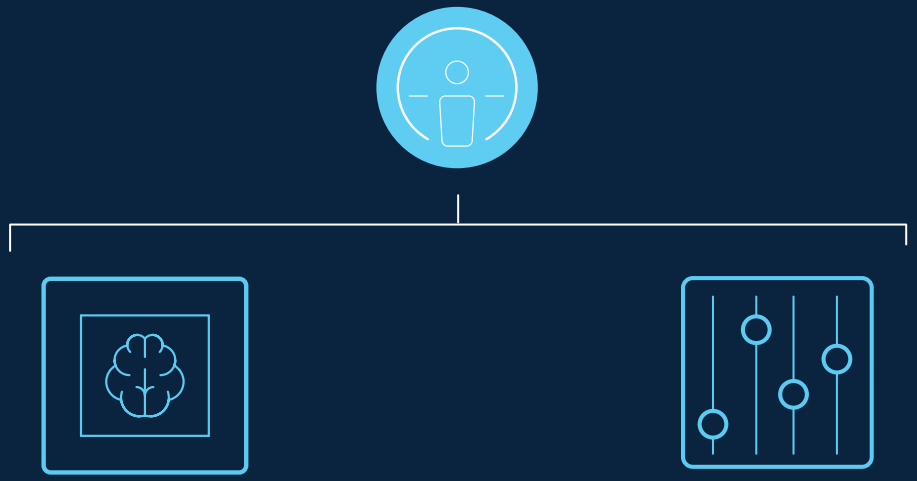
Thinks fast. Works even faster.

Intelligent Protocoling

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

Auto Positioning

AI-based Auto Positioning streamlines patient positioning workflow by minimizing actions into a single-click operation. It first detects landmark locations and displays scout scan range on the Xtream tablet and then determines the correct table elevation and cradle movements to align the scan range center to the CT isocenter.

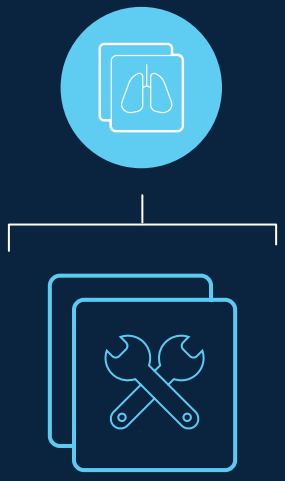


Smart Plan

Smart Plan uses information from the patient scout to automatically provide the correct scan range for head, chest, abdomen and pelvis scans, including multigroup scans.

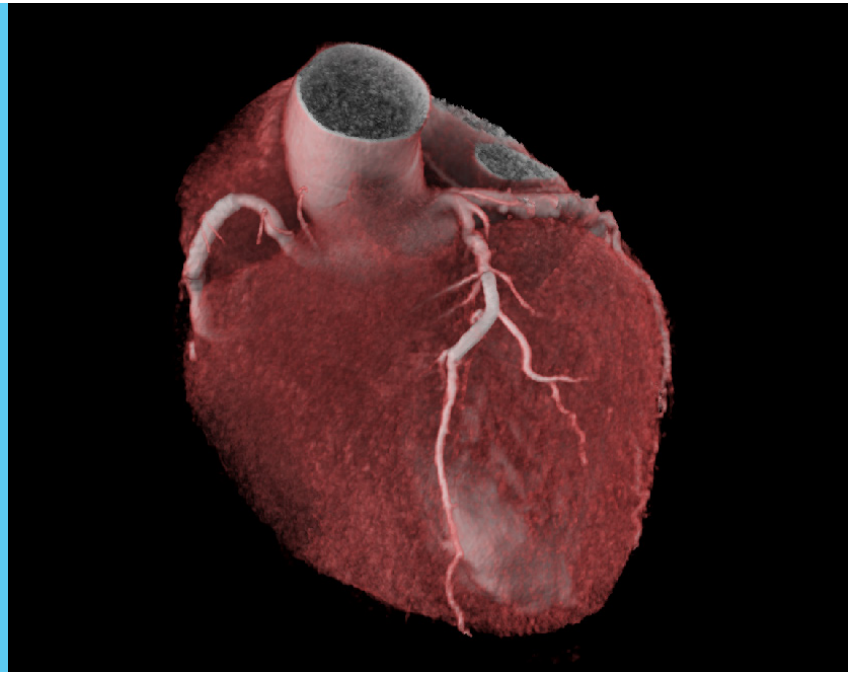
Auto Prescription

Auto Prescription delivers an auto-adjustment of scan settings, balances dose and image quality, facilitates the optimal trade-off between scan speed and mAs and provides re-usable, customizable patient profiles. Auto Prescription technology reduces scan time adjustments and eliminates the need for size-based protocols.



Automated post-processing tools

Revolution Ascend streamlines your post-processing tasks through Prospective Multiple Reconstruction, automated reformatted view generation and a suite of intelligent applications designed to deliver high efficiency and high quality CT imaging in all clinical areas.



Clearly a faster way to quality images

Performance imaging is a careful balance of the right amount of image quality combined with speed and accuracy. Revolution Ascend makes it easier to strike the right balance with key advancements like the best-in-class 0.28 mm spatial resolution[4] and ASiR-V iterative reconstruction technology, which offers an advanced noise reduction capability.
In addition, our Deep Learning Image Reconstruction technology uses a dedicated deep neural network to generate TrueFidelity™ CT images[5].

3D reconstruction whole body CT angio with TrueFidelity[6]: enhanced small vessels details

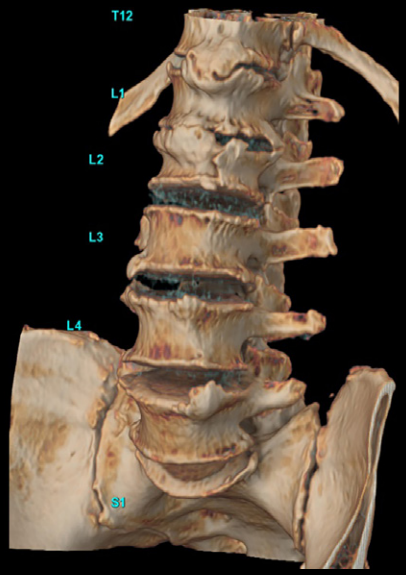
3D run-off reconstruction with Smart MAR: no artifact on vessels from hip prothesis

FBP

ASiR-V 50%

TrueFidelity[6]

Routine head scan: three reconstruction algorithms comparison



Lumbar spine 3D Volume Illumination showing a vertebral collapse

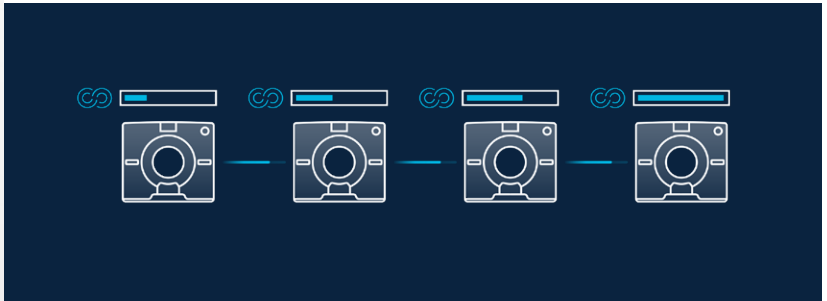
Curved reformatted view of left internal carotid

Abdominal 3D Volume Illumination reconstruction

Revolution

A CT that keeps getting better

CT application development never stops, yet traditional purchase models make it difficult for you to keep up. Smart Subscription, our new subscription-based service for CT applications, automatically keeps all of your systems up to date. For one annual fee per device, you can be sure your CT fleet is always equipped with the latest software capabilities, saving you time and money.



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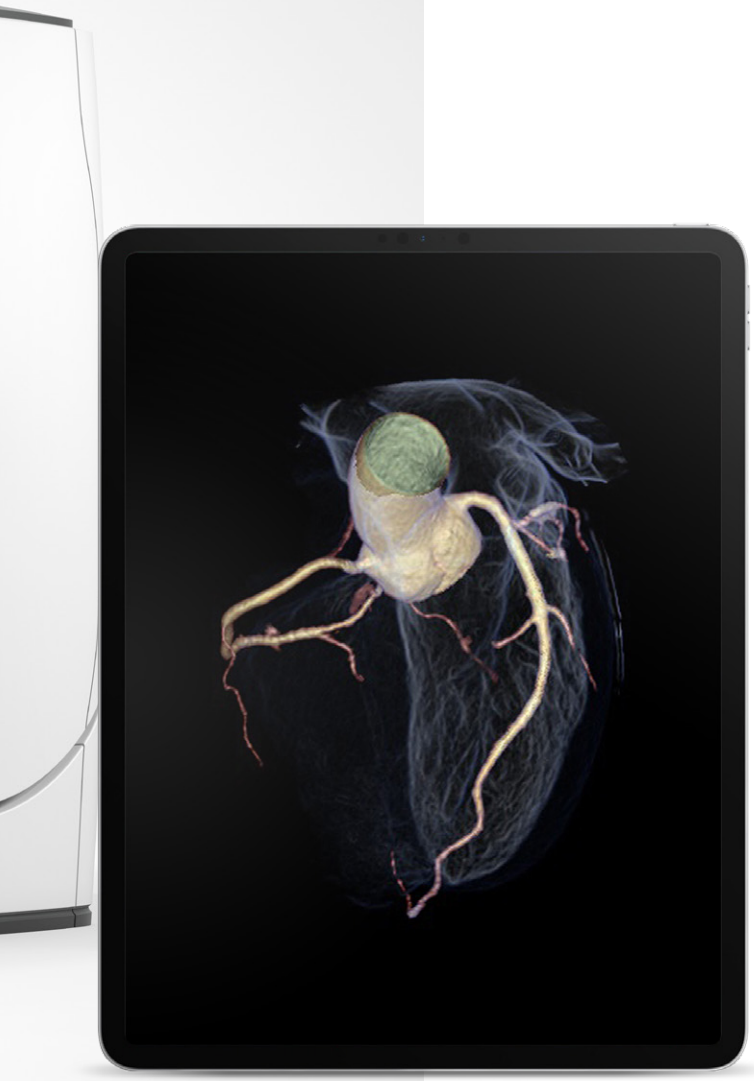

Welcome to the new standard for CT

CT departments around the world face operational challenges that require a completely new approach to performance imaging. In order to manage an increasing procedure volume, you need accurate results faster than ever before. With Revolution Ascend, we provide an innovative CT experience.

Revolution Ascend features our new Effortless Workflow model, which uses AI technology to streamline the entire CT process. Revolution Ascend empowers you to get the right diagnosis, efficiently and precisely, for more patients in less time.

Building a world that works

The products mentioned in the material may be subject to government regulation and may not be available for sale in all locations. Shipment and the effective sale can only occur if the register is approved in your country.

[1] Patient area defined by circular area between the top of the gantry bore and the center of the table top surface at lowest cradle position.

[2] The required clicks are defined as clicks required to execute a scan from selecting a new patient til start scan. All associated clicks for and in clinical practice, number of the required clicks may vary depending on the circumstances, including but not limited to, the clinical task, exam type, clinical practice, and image reconstruction technique.

[3] 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. Low Contrast Detectability (LCD), Image Noise, Spatial Resolution and Artifact were assessed using reference factory protocols comparing ASiR-V and FBP. The LCD measured in 0.625 mm slices and tested for both head and body modes using the MITA CT IQ Phantom (CCT183, The Phantom Laboratory), using model observer method.

[4] Calculated based on MTF 4% value in X/Y. 4% MTF is measured under 120 kv, 200 mA, 1.0 sec gantry rotation and Edge Plus kernel.

[5] TrueFidelity on Revolution Ascend is 510(k) pending at FDA. Not available for sale in the US.

[6] Images obtained from investigational device, limited by US law to investigational use.

About GE Healthcare:

GE Healthcare is the $18 billion healthcare business of GE (NYSE: GE). As a leading global medical technology and digital solutions innovator, GE Healthcare enables clinicians to make faster, more informed decisions through intelligent devices, data analytics, applications and services, supported by its Edison intelligence platform. With over 100 years of healthcare industry experience and around 50,000 employees globally, the company operates at the center of an ecosystem working toward precision health, digitizing healthcare, helping drive productivity and improve outcomes for patients, providers, health systems and researchers around the world.

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