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Leading Innovation >>>

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Aquilion ONE VISION EDITION

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THE WORLD'S MOST ADVANCED DYNAMIC VOLUME CT SYSTEM JUST GOT EVEN BETTER

Introducing the Aquilion ONE™ /VISION Edition — Providing robust clinical solutions for you and your patients when you need them most.

Aquilion ONE /VISION enables successful examination of all patients, with the lowest possible exposure doses and the highest quality diagnostic outcomes. — FIRST TIME, EVERY TIME.

Aquilion ONE
VISION EDITION

VISION **ADVANCED**

VISION **DESIGN**

VISION **CLINIC**

VISION **WORKFLOW**

VISION **PROTECT**





INNOVATION TO IMPROVE THE QUALITY OF LIFE FOR EVERYONE EVERYWHERE

- Motion-free imaging with routine 0.275 second scanning
- Next-generation Quantum Vi detector
- Transform your diagnosis from morphological to functional
- Integrated dose-reduction solutions assured



Prof. Mathias Prokop

Radboud University Nijmegen Medical Centre,
Netherlands

The Aquilion ONE ViSION CT is our radiology workhorse, our CT for advanced perfusion applications and also provides a source of excitement and endless possibilities for our researchers.

The technology in this system is quite remarkable. Dose reduction is fully integrated with AIDR 3D, which takes all the guesswork out of using advanced iterative reconstruction algorithms. The new Quantum Vi detector is able to routinely scan at 0.275 second scan speeds and provides excellent motion-free images. We now employ this rotation speed for the majority of our examinations. In addition, the 16 cm wide coverage allows dynamic perfusion examinations to be performed in a routine clinical setting for a variety of clinical presentations, offering real clinical benefits in vascular as well as oncologic applications.

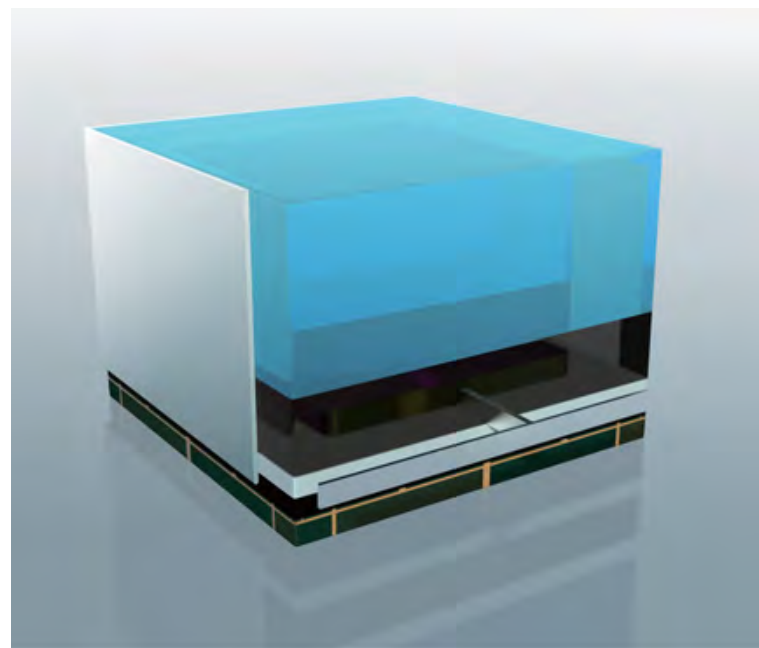




VISIONPROTECT

Your patient's safety is our top priority.

Innovations in our hardware and software have been designed to protect your patient throughout the entire examination.



The Quantum Vi Detector

The newly developed Quantum Vi detector enables 16 cm of patient coverage per rotation for ultrahelical and dynamic volume acquisitions.

Through a proprietary Toshiba manufacturing process, we are able to machine the industry's thinnest detector elements (0.5 mm), providing the best possible spatial resolution for finely detailed imaging.

The Quantum Vi delivers a photon-to-light conversion rate that is 25% more efficient than other detector systems. And with afterglow reduced to mathematically negligible levels, this detector provides artifact-free images with fewer X-ray photons.

Advanced DAS design and innovative electronic shielding technology eliminate unwanted electronic noise and enable signal transfer at a rate of 25 Gb per second. This advanced design ensures preservation of signal integrity and ultimately image quality.



Integrated dose reduction that works

Conventional Iterative Reconstruction

✓ **Noise reduction**

AIDR 3D

✓ **Noise reduction**

✓ **Protocol integration**

✓ **Prospective mA reduction**

✓ **Ease of use**

✓ **Assured image quality**

✓ **Optimized reconstruction speed**

✓ **Application to every scan**



Dr. John Troupis

Co-director, Cardiac CT,
Diagnostic Imaging,
Southern Health, Australia

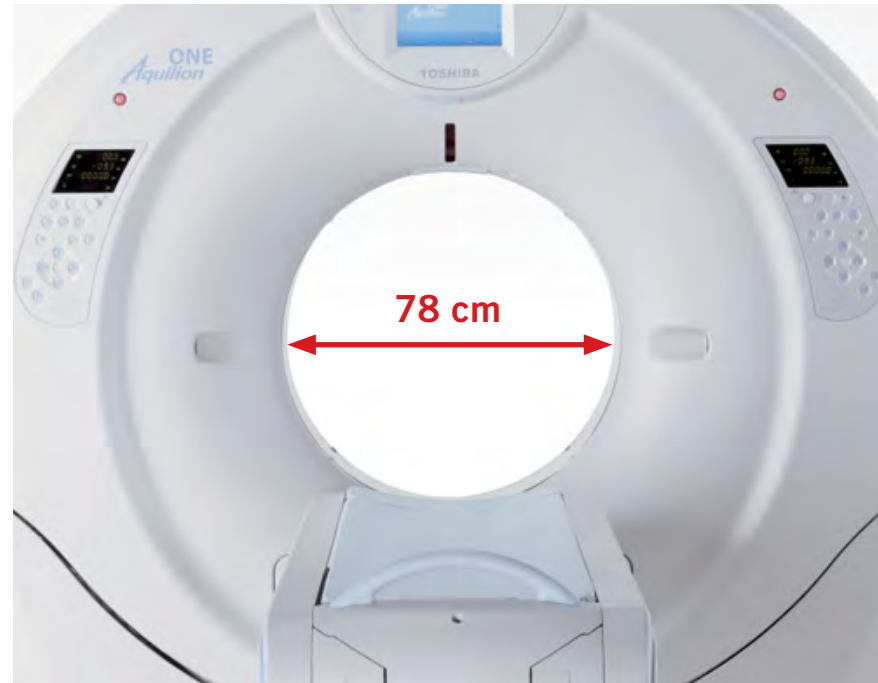
In our clinical setting, dose reduction of up to 75% is achieved routinely as AIDR 3D is integrated into the automatic exposure control software, which prospectively calculates the tube current for each examination based on our preferred reference image quality. Quite simply there is no guesswork needed, and the perfect balance of image quality at reduced dose is completely automated with consistent results.



ViSIONDESIGN

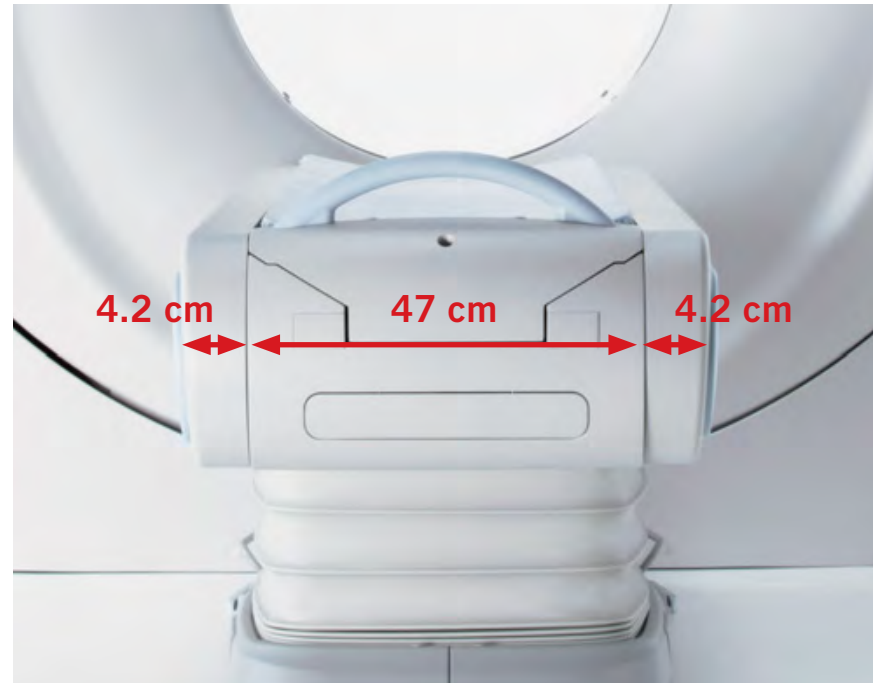
Toshiba's ViSION for the welfare of your patients extends beyond the scan room.

Patient comfort and ease of use have been in the forefront during the design of the Aquilion ONE ViSION. Environmentally friendly manufacturing processes and unique hybrid drive technology contribute to the wellbeing of future generations.



ONE Gantry

A wide, 78 cm open bore ensures that even the largest patients will remain at ease during scanning. This design also offers superior patient access for physicians during interventional procedures.



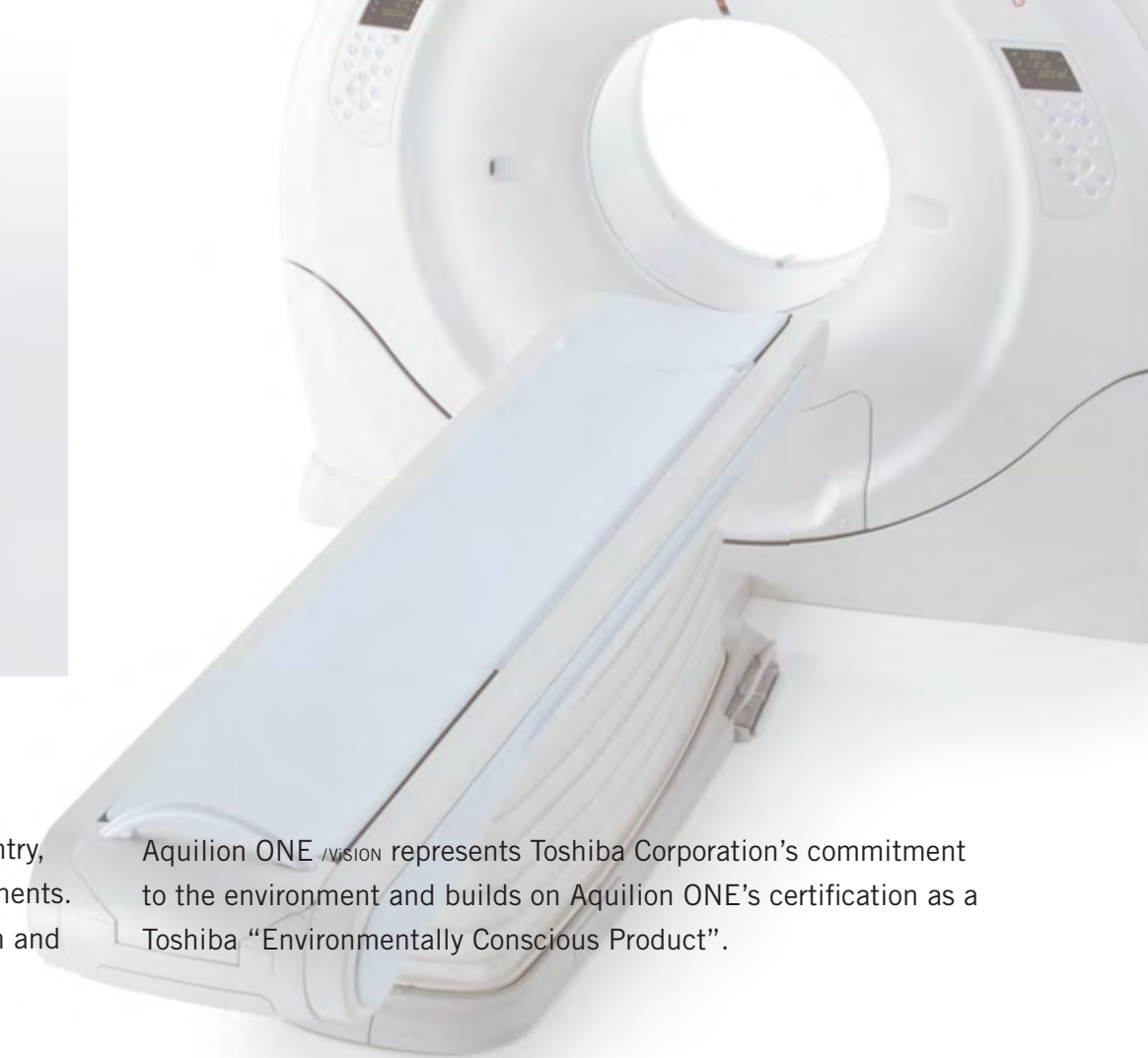
ONE Table

Tech Assist Lateral Slide* is another Toshiba first, providing the technologist unparalleled ease in positioning patients without physical strain.



ONE Hybrid

The hybrid drive converts energy during deceleration of the gantry, generating electricity which is recycled to power gantry components. A thoughtful design feature that minimizes power consumption and reduces the carbon footprint.



Aquilion ONE VISION represents Toshiba Corporation's commitment to the environment and builds on Aquilion ONE's certification as a Toshiba "Environmentally Conscious Product".

*Option



ViSIONCLINIC

The Aquilion ONE /VISION hosts a suite of unique clinical applications that streamline patient pathways and contribute to reductions in healthcare expenditure.



Emergency ONE

Aquilion ONE VISION is perfectly designed for the emergency department, where minimizing risk and maximizing health outcomes of patients at risk is critical.

- Routine 0.275 second scan speed
- InstaView reconstruction
- Angled helical scans
- Tech Assist Lateral Slide* table movement and 78 cm large bore



Pediatric ONE

Instant one-shot acquisition, a totally new way of scanning, can dramatically reduce the need for patient sedation, while simultaneously improving image quality and lowering the exposure dose in children of all ages.

- Handy Snap* in-room start switch
- Fast 0.275 second volumetric scanning
- Dedicated pediatric protocols
- Integrated AIDR 3D for safety

*Option





Cardio ONE

Capture the whole heart in one rotation and the whole story in one study. The Aquilion ONE VISION with volumetric 0.275 second scan speed delivers robust low-dose imaging for all your patients and for all heart rates.

- Capture the entire heart with one 0.275 second rotation
- Intelligent Arrhythmia Rejection
- Routine low-dose imaging with integrated AIDR 3D
- One-shot myocardial perfusion* validated by CORE320

*Option

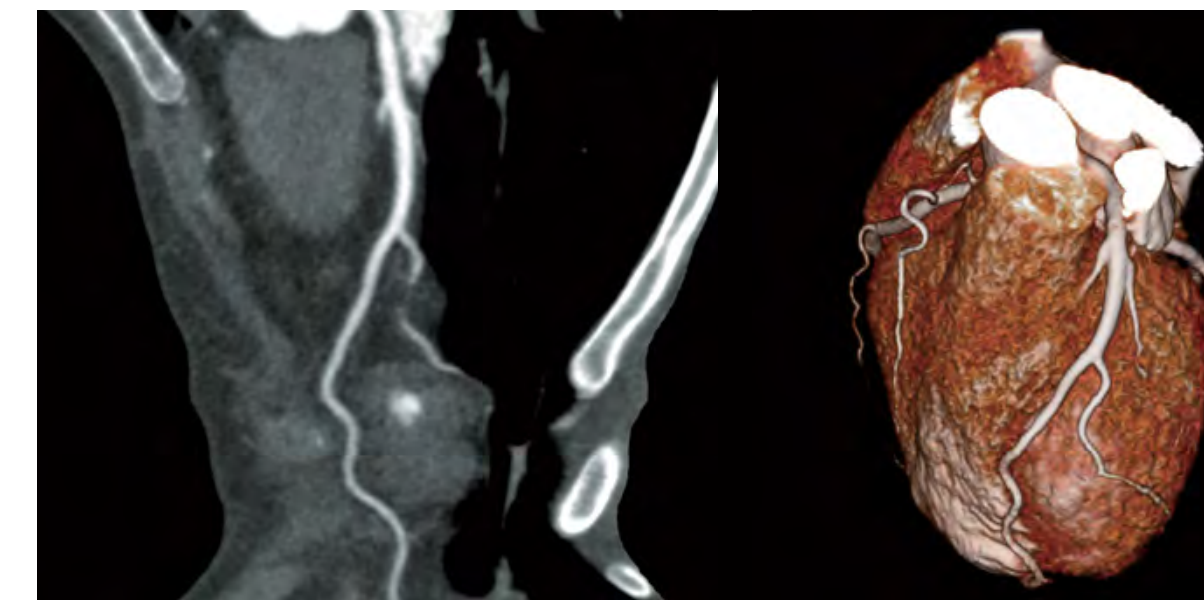


Dr. Marcus Chen

NHLBI, National Institutes of Health, USA

The initial US clinical experience with the Aquilion ONE VISION started in July 2012 at the National Institutes of Health.

“The Aquilion ONE VISION has five major features to optimize cardiac CTA examinations. The faster gantry rotation time of 0.275 s and the 16 cm volume coverage per rotation combine to allow single heartbeat CTA in patients with heart rates up to at least 75 bpm, which covers 95% of our patients. The addition of iterative reconstruction (AIDR 3D) integrated into the automated exposure control software ensures that examinations are routinely performed with minimal exposure requirements. Analysis of the first 99 patients scanned since installation shows the median radiation dose is <1 mSv for CTA. A more powerful X-ray generator supports scanning of larger patients (up to a BMI of 47 kg/m² in our experience) with diagnostic image quality.”





Neuro ONE

From routine to remarkable - go beyond static imaging with dynamic assessment of blood flow to and perfusion of the entire brain.

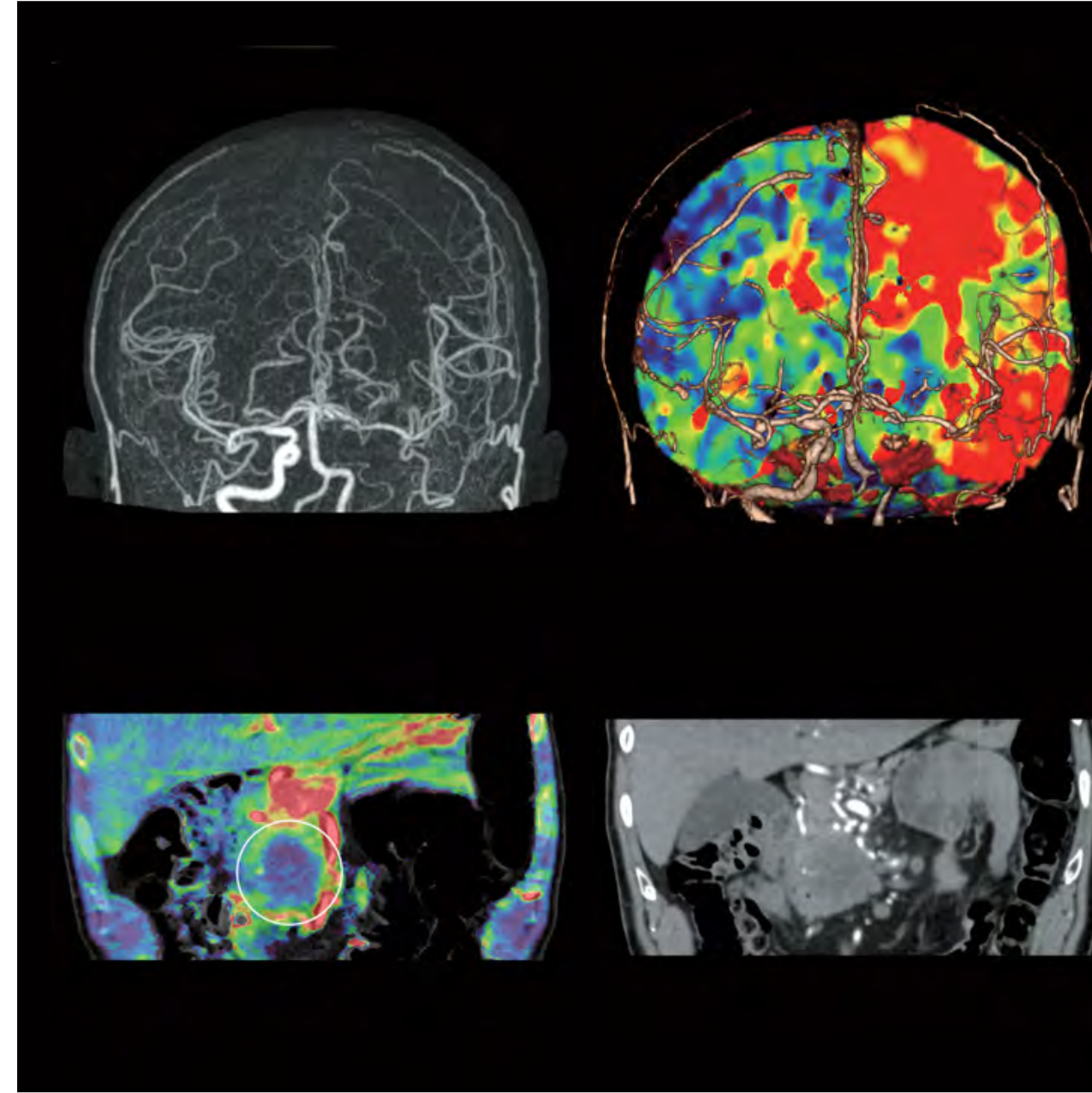
- ONE low-dose 60 second exam
- Whole-brain 4D DSA*
- Whole-brain perfusion*
- Diagnosis in minutes



Oncology ONE

Transform your diagnostic capabilities from morphological to physiological diagnosis. Scans are performed effortlessly with low-dose parameters.

- Diagnose lesions that cannot be seen with traditional static imaging
- Add certainty to the classification of tumors with blood-flow quantification*
- Monitor tumor progression and follow-up response to treatment
- Reduce the need for additional imaging tests or biopsy



*Option



Interventional ONE

Volumetric 3D and 2D realtime CT fluoroscopy* allows the most difficult interventional procedures to be performed with greater ease and improved safety for you and your patients.

- Realtime display to monitor needle placement as it happens
- Dedicated biopsy planning tools
- Oblique and double oblique needle tracking in 3D fluoroscopy
- Integrated ADR 3D for 3D fluoroscopy, ensuring lower exposure doses

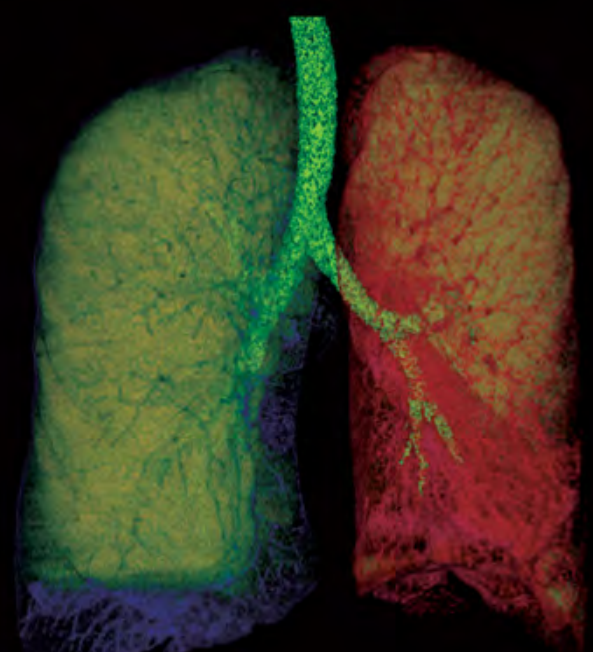
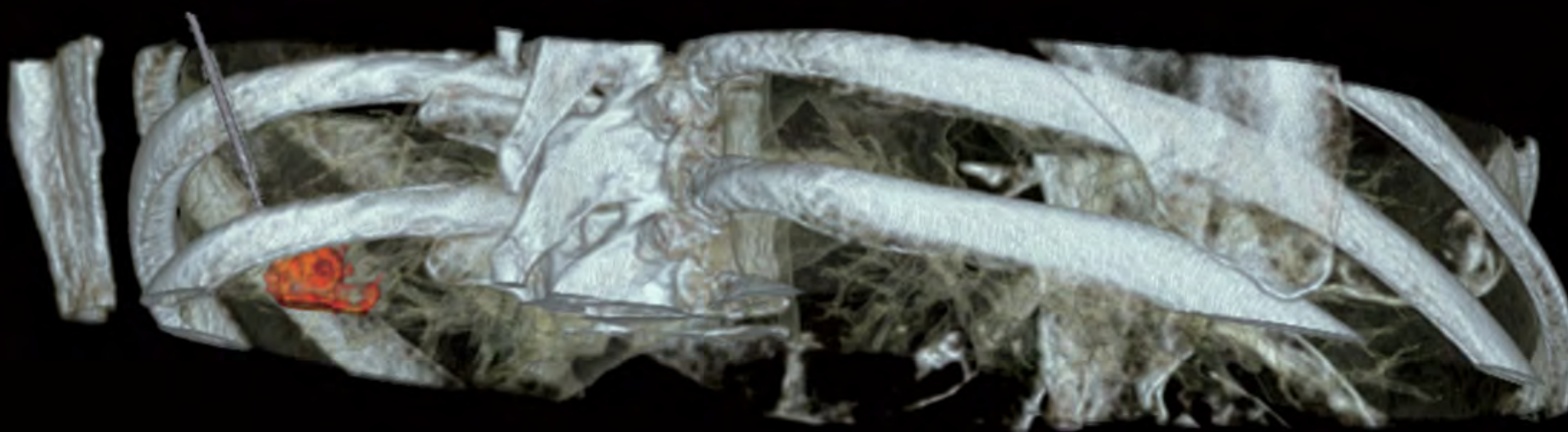
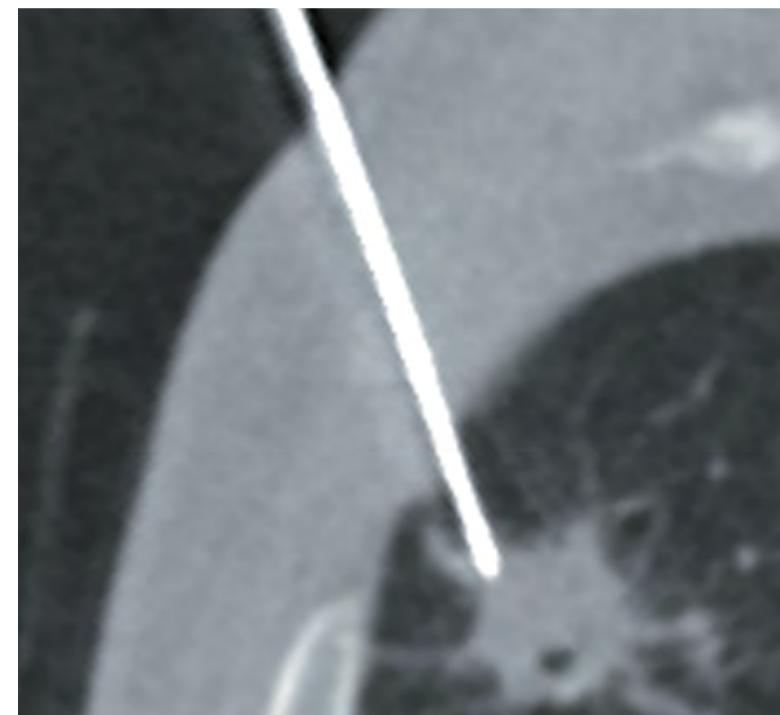


Respiratory ONE

Low-dose dynamic acquisition during patient respiration allows true functional assessment for a variety of airway diseases. Volumetric scanning without table motion eliminates the need for respiratory triggering devices.

- Dynamic upper airway for dysfunctional pathology
- Dynamic lower airway for tracheomalacia
- Dynamic lung for air trapping
- Dynamic lung tumor motion for staging and treatment planning

*Option





VISION WORKFLOW

Do more with less time using advanced reconstruction and visualization technology designed to streamline workflow and time to diagnosis. Integration of a suite of advanced technologies ensures that high throughput can be maintained while delivering consistent, high-quality examinations.



Reconstruction Speed

Powerful reconstruction architecture delivers a maximum rate of 50 images per second, permitting the routine use of iterative reconstruction technology (AIDR 3D) in any fast-paced environment.

InstaView

Introduced in 2004, Toshiba was the first manufacturer to deliver realtime image reconstruction. Second-generation Rapid InstaView technology now provides near-instant display and review with full-matrix images. High-quality realtime image review is perfectly suited for emergency patients, where every second to diagnosis counts.

Multiview

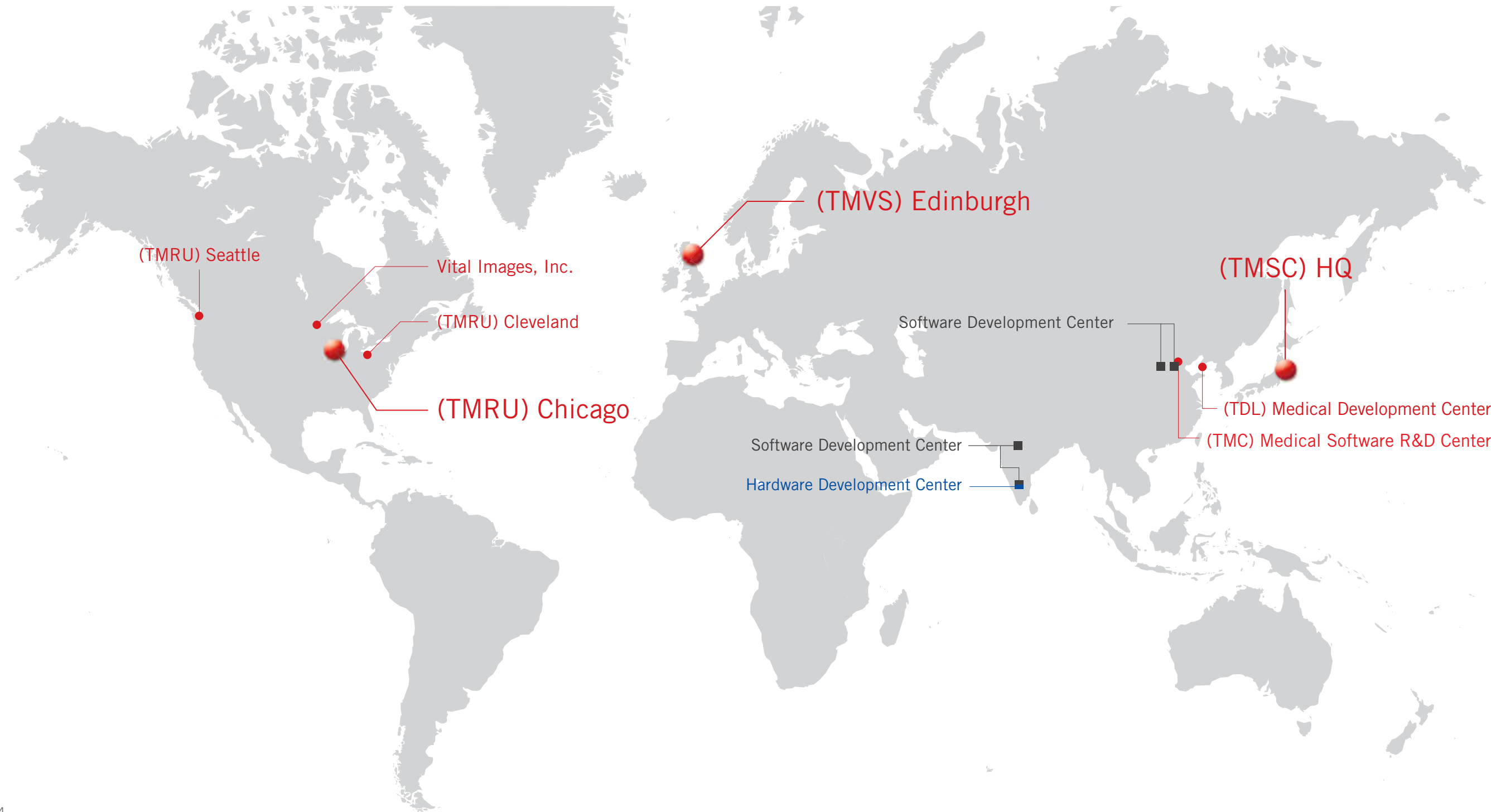
Multiview allows all reconstruction parameters to be pre-programmed into every examination protocol. Axial, coronal, and sagittal reconstructions are performed automatically without a single mouse click. Even rendering options such as thick-slab MIP images can be automatically generated, expediting diagnosis. Simply plan the scan and go!

Hybrid View

Save time and storage space with Toshiba's hybrid reconstruction kernels. These newly introduced iterative reconstruction algorithms provide sharp detail of the lungs and excellent soft-tissue resolution in one image. Reading times are shortened, as you only need to concentrate on a single series to make a definitive diagnosis.

Visit www.aquilionvision.com to view in motion





VISIONADVANCED

Tailor your CT system to meet your clinical needs, now or in the future.

Leading clinical research in emerging applications for dynamic volume imaging has resulted in the development of unique software applications. From acquisition to analysis and diagnosis with smart, simple, and sophisticated packages, your future with Aquilion ONE /VISION will continue to evolve.

With research and development teams across the globe and across image processing disciplines, Toshiba is uniquely positioned to understand the developing clinical needs of customers and patients - now and in the future.

SURE^{Subtraction}

With pixel-perfect subtraction of bone and calcium, SURE^{Subtraction}* software provides unsurpassed visualization of vessels and contrast-enhanced tissue structures, providing all the information you need to make a confident diagnosis in the shortest time.

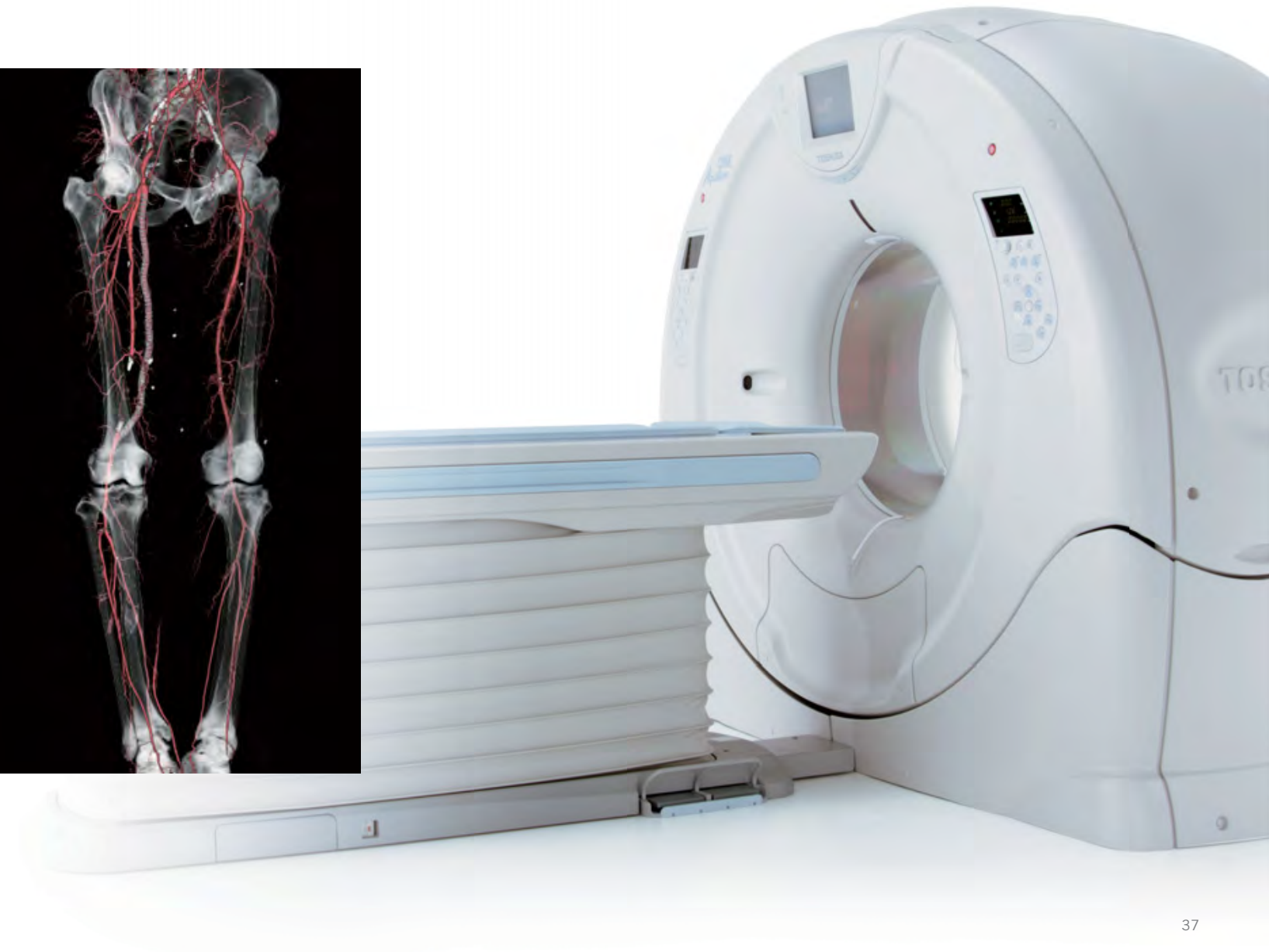
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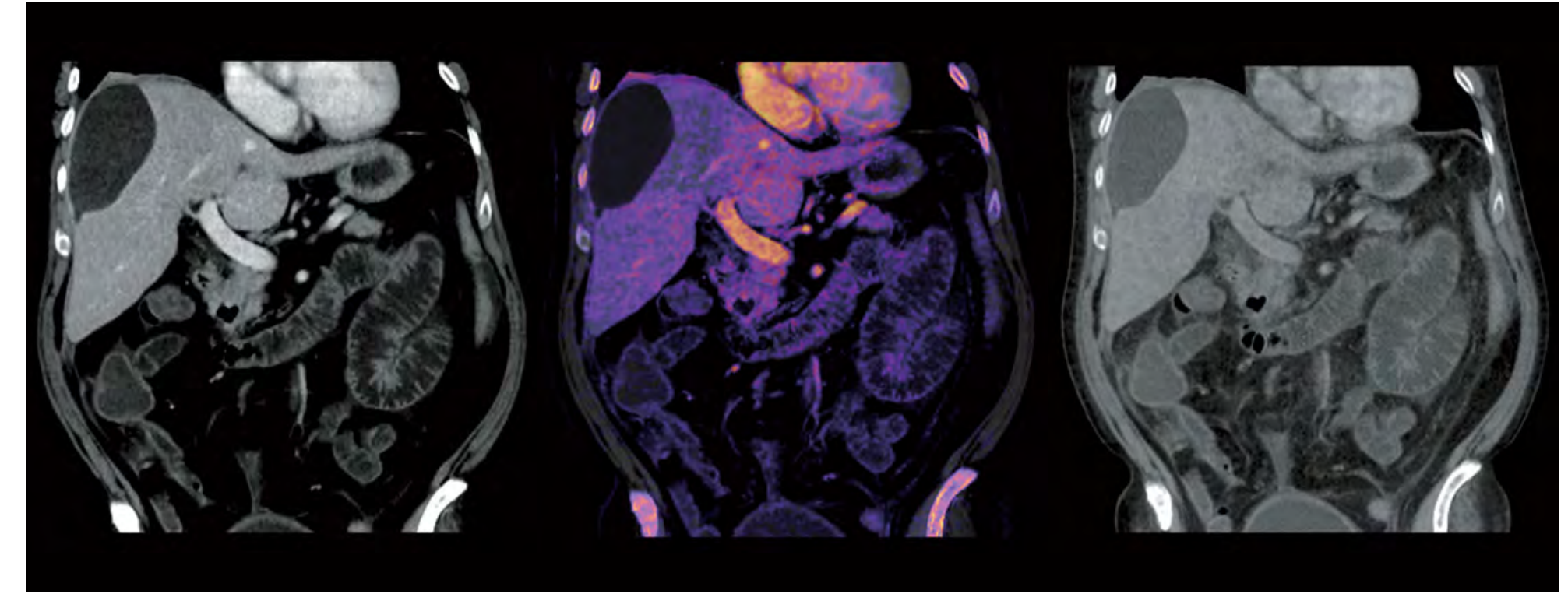
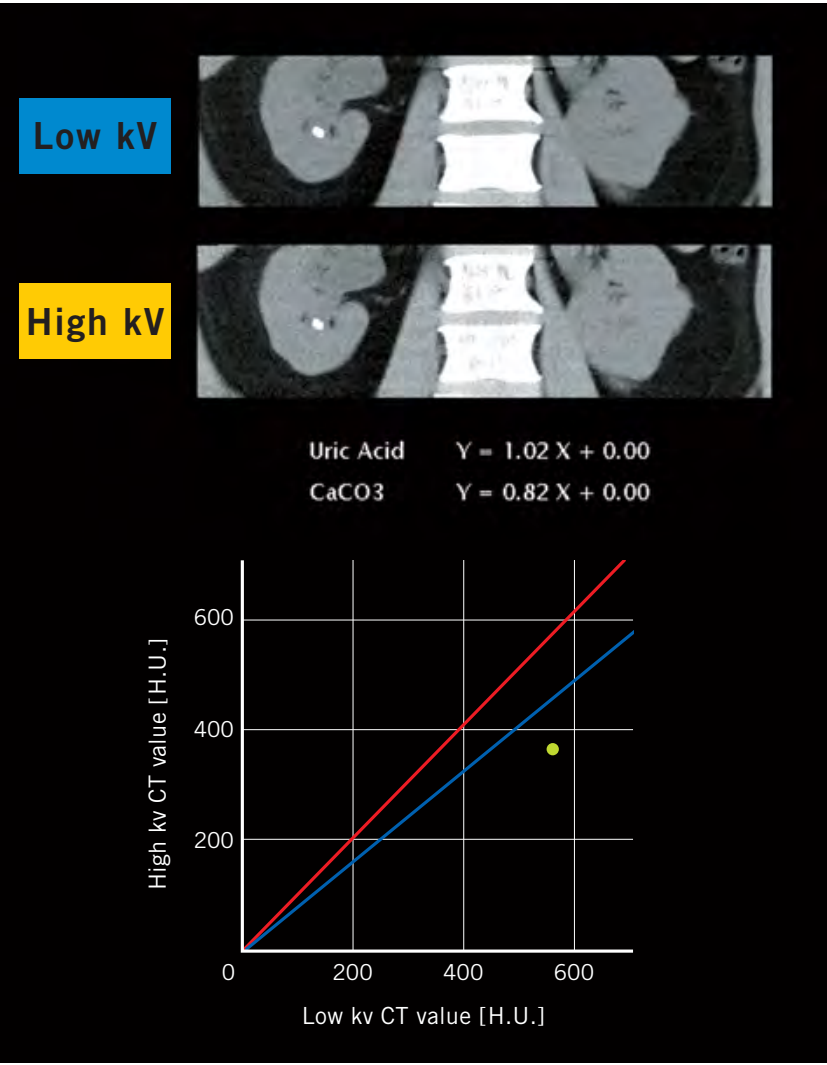


Dr. Ruben Sebben

Consultant Radiologist,
The Queen Elizabeth Hospital, Adelaide, Australia

This deformable subtraction algorithm provides a highly accurate CT DSA examination of routine carotid CTA studies, dramatically reducing the time required for image interpretation. In addition, the presentation of these subtracted images is greatly favored by referring clinicians. This is truly game changing technology, and a remarkable development.





Dual Energy

Volumetric and helical Dual Energy* scans provide advanced tissue characterization and multi-energy viewing, iodine mapping and subtraction.

*Option



Prof. Edwin van Beek and Dr. John Reid
CRIC, University of Edinburgh, Scotland

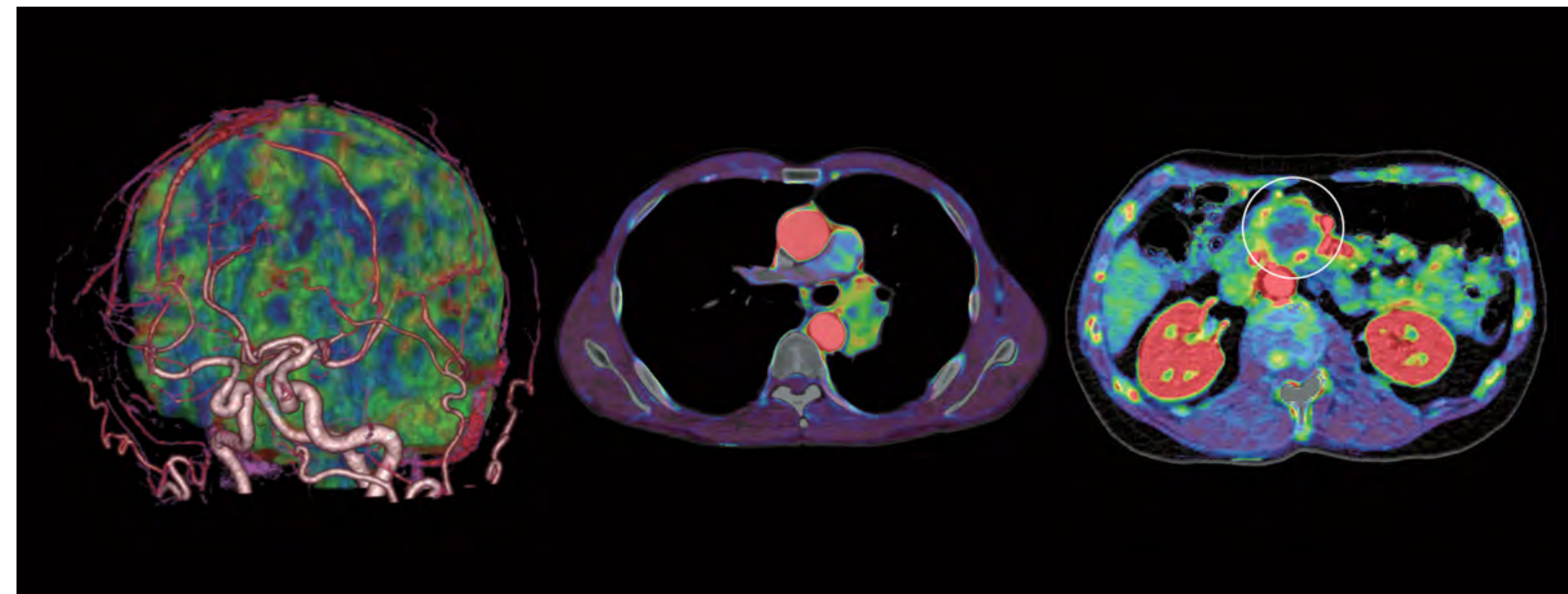
“A few years ago, the idea of combining the spatial resolution and temporal accuracy of CT with the recognised benefits of mapping regional perfusion information was a dream. With the advent of the Aquilion ONE, that dream has become a reality.”

Perfusion*

Transform your diagnostic capabilities from morphological to physiological diagnosis. Scans are performed effortlessly with low-dose parameters.

Advanced and automated visualization processing enables fast and accurate diagnosis.

*Option



TOSHIBA AND THE ENVIRONMENT

Good for our planet, right for our customers

Caring for the earth and its people is at the heart of everything Toshiba does – and one of the many ways we innovate. Toshiba's passion for safeguarding the earth is enshrined in our Environmental Vision 2050, whereby we seek to improve our eco-efficiency by a factor of ten over the next four decades through strict monitoring of energy usage, continuous improvement of manufacturing processes and eco-conscious product development.

Far from being a distant goal, the Environmental Vision 2050 sets tangible milestones year by year. These include the reduction in emission of CO₂ and other greenhouse gases, and the complete phasing out of certain hazardous substances from our products.



Shorter scan time and reduced power consumption achieved with a 160 mm wide area detector

Aquilion ONE_{VISION} incorporates a 160 mm wide area detector with an axial length five times larger than a conventional 64-row detector (32 mm), allowing both the scan time and the electrical power requirements for scanning to be reduced to approximately 1/5.^{(*)1}

*1: Varies depending on the scan conditions.

*2: Compared with Toshiba products in which AIDR 3D is not installed.

Low-dose scanning technology AIDR 3D that reduces power consumption

AIDR 3D technology allows high-quality images to be acquired with lower X-ray exposure than in conventional systems. The patient exposure dose can be reduced by up to 75%,^{(*)2} with a corresponding reduction in power consumption for X-ray generation.

Reuse of energy

Aquilion ONE_{VISION} incorporates an electricity regeneration function that uses the rotational energy of the gantry after scanning to regenerate electrical power which is then supplied to the console or used for gantry rotation. This makes it possible to reduce power consumption by up to 3% as compared to earlier Toshiba models.



GLOBAL INNOVATION BY DESIGN

For over 130 years Toshiba's research and development has improved the health and welfare of people around the world. Today, Toshiba Medical Systems offers a full range of diagnostic imaging products and is a reliable service partner in more than 110 countries. In accordance with our Made for Life™ commitment, we will continue to develop innovations that improve patient care and provide lasting quality for a lifetime of value.

WHY TOSHIBA?

Innovation

Toshiba is a world leader and innovator in high technology, spanning information & communications systems, digital consumer products, electronic devices, and medical imaging systems. Year on year we file thousands of patents, leading the way within each industry sector making innovation a key part of the Toshiba fabric.

Quality

At Toshiba quality and reliability is at the heart of everything we do. With technologies and products being developed in more than 30 R&D laboratories and over 300 subsidiary companies across the globe Toshiba engineers are dedicated to develop the best-performing, most reliable and environmentally friendly product solutions for you.

Design

Our product design is driven by customer feedback and the close consultation with industry visionaries and opinion leaders. Our award-winning Corporate Design Center has over 50 years of experience in developing appealing products and industry-leading solutions.

Partnership

Making sure your systems deliver from day one is an important part of our relationship. Whether you need onsite or offsite training, we can provide options that work best for you. Experienced clinical application specialists will help you maximize the potential of your new equipment.

Environment

With Environmental Vision 2050, Toshiba announced its commitment and determination to contribute to a better environment by emphasizing the stable supply of reliable energy and mitigation of climate change as well as by creating new value in harmony with the Earth.

Everybody deserves the right to the best scan
FIRST TIME, EVERY TIME





WARNING: Any reference to x-ray exposure, intravenous contrast dosage, and other medication is intended as a reference guideline only. The guidelines in this document do not substitute for the judgment of a healthcare provider. Each scan requires medical judgment by the healthcare provider about exposing the patient to ionizing radiation. Use the As Low As Reasonably Achievable radiation dose principle to balance factors such as the patient's condition, size and age; region to be imaged; and diagnostic task.

Disclaimer: In clinical practice, the use of the AIDR feature 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.

Due to local regulatory processes, this product may not be available in each country. Please contact your local Toshiba sales representative for the most current information.

TOSHIBA MEDICAL SYSTEMS CORPORATION

<http://www.toshibamedicalsystems.com>

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Toshiba Medical Systems Corporation meets internationally recognized standards for Quality Management System ISO 9001, ISO 13485.

Toshiba Medical Systems Corporation Nasu Operations meets the Environmental Management System standard ISO 14001.

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