# CardioGraphe™


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# CardioGraphe™

## For first-line individualized decision-making in CAD

### *The only dedicated cardiovascular CT*

The only compact system dedicated to cardiovascular CT that increases 1st line patients' access to tailored CAD management (prevention, diagnosis and treatment) because it is an easy-to-use, evidence-based tool to aid clinical decision-making. These elements provide easy patient and scan preparations to allow for an increase in challenging patient access by up to 15%.

### *Innovative design*

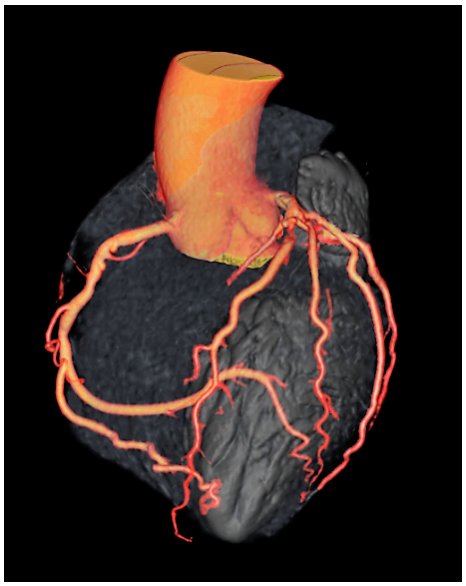
CardioGraphe's™ novel technologies allow for a cardiac-centric patient experience. These include:

- **Stereo CT**—dual overlapping beams help reduce cone beam artifacts and enhance coverage at spatial resolutions of 0.28 mm
- **Focused FOV of 25cm**—provides 10~20 times dose reduction in areas outside of cardiac anatomy
- **Ultra-short geometry**—allows for faster rotation speeds of 0.24 seconds and more photon flux for a given tube power
- **Compact Design**—the CardioGraphe™ fits through standard doorways and elevators, and sits in rooms as small as 15m$^2$

### *An enhanced cardiovascular care pathway*

The CardioGraphe™ offers a multitude of advanced applications and workflow improvements to deliver a streamlined process for cardiac CT exams.

- **ASiR-CV**—reduces image noise and can be used to reduce dose while improving IQ with CardioGraphe's™ 25cm FOV and 140mm detector coverage
- **SmartScore 4.0**—advanced imaging software that detects, quantifies, and scores cardiac calcium plaque burden
- **CardIQ Xpress Reveal**—anatomical, functional, and perfusion information that aids in quick diagnosis
- **TAVI Analysis**—comprehensive work-up for TAVI procedure planning in a single workflow
- **CardEP**—streamlined post-processing for improved electrophysiology procedures



# One Beat Cardiac Imaging

## Motion-free cardiovascular CT at any heart rate

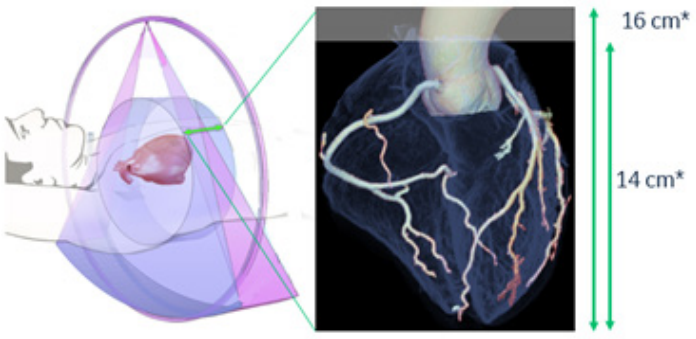
### Challenge

- Patients with variable or high heart rhythms can necessitate the use of pharmaceuticals to stabilize cardiac motion
- Many of this patient base (about 15%) may have contraindications or arrhythmias which can produce suboptimal imaging even after following protocol measures

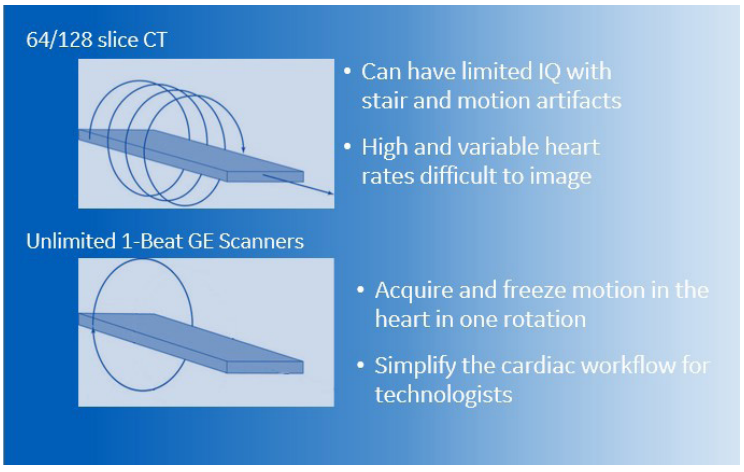
### Solution

Cardiac structures move quickly and irregularly. Wide detector coverage of 140mm with rotation speeds up to 0.24 seconds help enable unlimited one-beat cardiac acquisitions

- Removes banding artifacts caused by multi-beat studies
- Provides an opportunity to expand your patient base




Unlimited one-beat cardiac, with wide coverage and fast rotation speeds, reduces the issues with multi-beat scanning by capturing the cardiac anatomy in one R-R cycle at any heart rate and patient size.



# SnapShot Freeze

## Improves effective temporal resolution with intelligent motion correction

## Challenge

- Cardiac motion can influence the accurate assessment of coronary arteries, especially in patients with high or variable heart rates, or degrade the image quality for cardiac evaluation.
- Technical developments in CT systems have improved the temporal resolution, including increased gantry rotation speeds, larger coverage, or dual-source CT approach. However residual cardiac motion remains. Additional motion correction algorithm is needed.

## Solution

- Snapshot Freeze helps reduce motion blurring in vessels by up to a factor of six*.
- Characterizes motion within a single heart cycle, so it is not susceptible to beat-to-beat inconsistencies or heart period /gantry period resonance points which can plague multi-sector (i.e., multi-heart cycle) reconstruction.

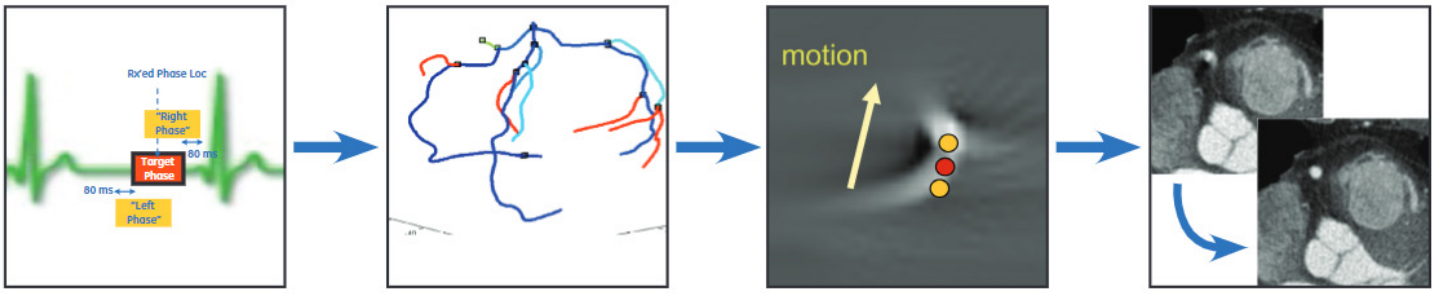
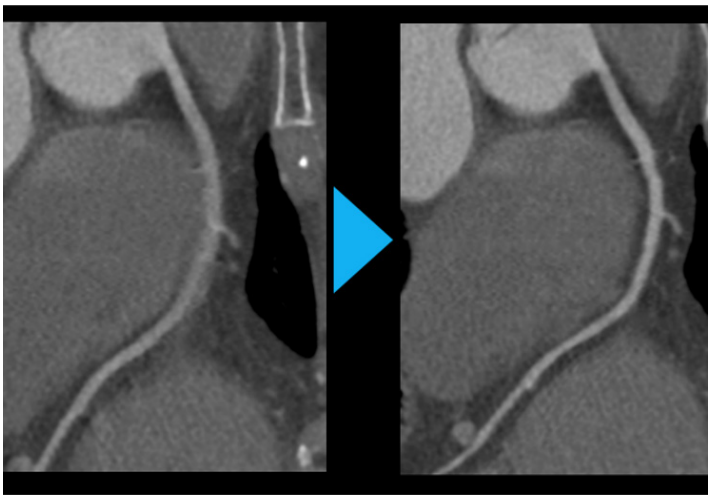



**Figure 2.** Primary components of coronary motion correction.

## Results

SnapShot Freeze provides automated cardiac vessel correction



* "Intelligent motion correction with SnapShot™ Freeze is designed to reduce blurring artifacts due to motion in coronary vessels that cannot be addressed by gantry speed alone. A 6x improvement of motion-blur reduction while maintaining high spatial resolution is demonstrated in cardiac phantom testing."

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