Innova 3100IQ Pro
Cardiovascular Flat Panel Imaging System
Innova 3100IQ Pro

Maximise Your Clinical Benefit.
Leading Image Quality and Dose Efficiency.

GE Innova technology has always been leading the industry in areas of image quality and dose efficiency.

Since the introduction of Innova in the year 2000 as the world’s very first flat panel cardiovascular system, GE has announced several breakthroughs aimed at improving cardiovascular procedure outcomes, safety and dose to the operator. The system enables excellent visualisation to access even difficult-to-reach lesions with effective interventions. The system has been developed by listening to the voice of the customer – the interventionist.
Optimal Size

GE was the first to introduce a truly versatile detector for combined neuro, angio, vascular and coronary interventions on a single platform. The 30 x 30 cm detector offers the optimal resolution and image flexibility for every procedure, with four fields of view in fluoroscopy, record and 3D modes. Advanced robotic collision sensing combined with a 3 focal spot high power x-ray tube enables faster and easier procedures in every setting and clinical situation.

12cm FOV Quality

The smallest selectable FOV of 12 cm is optimal for high resolution visualisation during fluoroscopy and acquisition, giving the operator procedural confidence.

Revolution Detector

Designed and developed exclusively by GE, the Revolution detector is covered by over 160 patents and offers the industry standard of detective quantum efficiency for all procedures. The exclusive features of the revolution detector is high conversion efficiency, low lag, low noise in readout and high fill factor. Unlike other detectors, the Innova detector has onboard A/D converters per each readout line, thereby speeding up conversion and avoiding noise. There is no analog multiplexing or light reset in GE detectors.
Auto Ex & DRM

The high detector DQE is translated into higher image quality and dose efficiency by two advanced technologies called Auto Ex and DRM.

Auto Ex is a unique real-time neural network system that measures patient thickness and analyses the image content for computing the optimal x-ray exposure to maximise the contrast-to-noise in the image. This eliminates the burn out and over exposure associated with other systems that employ a fixed detector dose. The operator can select at the table-side the preferred Auto Ex trajectory protocol based on physician preference or device or procedure. These can be stored as single click protocols for personalised dose setting.

DRM is a real-time online post processing algorithm that enhances the vessel contrast and device visibility in all viewing conditions including low-dose fluoroscopy increasingly preferred by physicians. This eliminates image burn-out in lung fields and also dark regions on spine and diaphragm. Since DRM operates at the image acquisition frequency, every portion of every image viewed has the optimal image contrast.

Smart ABD

Smart ABD is a special implementation to reduce image blooming and optimise the image contrast in DSA, DA and other similar imaging situations.

With smart ABD, you get the desired contrast in the region of interest without burn outs. You do not need to use external leg filters or lead blocks anymore.

Even unsubtracted images will show both the vessel contrast and the bone information in the image, thereby eliminating the need for subtraction in many situations.

High with Low

High Quality Imaging with Low Dose.
Multi Segment DSA

New!

Personalised Dose Setting with Auto Ex

New!

Personalised DOSE Setting

- IQ Standard + Balanced IQ & DOSE (low noise)
  - Estimated dose ratio is determined in the IEC 60601-2-43 conditions.

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Reference for Comparison
Excellent 3D

For maximum clinical value.

GE pioneered 3D angiography in 1994 and has been the industry-leader ever since. The Innova 3D protocol is user-friendly and produces the highest image quality in all studies. Low dose acquisition combined with unsubtracted 3D protocol means you save time and radiation. Automatic image reconstruction and multiplanar views which can be manipulated at the table-side mean that the 3D acquisition is streamlined. From fluoroscopy to 3D acquisition, reconstruction and image guidance for intervention – all accomplished very fast.

**STEP 1**

One touch acquisition

Initiate 3D from tables with one touch protocol

200 deg single rotation acquisition completed in 5 seconds safely

Innova 3D

Innova CT

40 deg/sec, 200° Rotation / 5sec Scan

20 deg/sec, 200° Rotation / 10sec Scan

10 deg/sec, 200° Rotation / 20sec Scan

**STEP 2**

Automatic transfer and recon of 3D on Advantage Workstation

Within seconds, the AW reconstructs all the 3D views including orthogonal multiplanar views and all are displayed simultaneously on the side-by-side monitors.

**STEP 3**

Working Angle Optimisation

The AW has easy menus to be selected in-room with the tableside mouse or via the workstation keyboard and mouse so that the 3D model can be analysed for optimal target angle to intervene during coiling or stent deployment. This angle can be sent to the gantry instantaneously so that the fluoroscopic angle is ideal for visualisation without excessive radiation or trial and error. This is possible with also CT and MR images as the AW is a powerful multimodality workstation.

Innova Synchro3D / In Room 3D

The tables in-room 3D mouse along with the in-room workstation monitor enables very easy manipulation of the 3D model including zoom and rotate functions. Preferred views can be stored for later recall. The 3D mouse can be used to send the preferred angle to the gantry. Subsequently, by activating the Follow-the-gantry function of Synchro 3D, it is possible to have the 3D model follow the fluoroscopic view even if the gantry angle is subsequently altered.

The excellent fluoroscopic image quality combined with full-sized synchronised 3D image on the adjacent monitor avoids ambiguity and motion artifacts. This speeds up and improves the coiling or stent deployment procedure.

Biopsy needle guidance
Volume rendered 3D image – Innova 3D

Clear lesion visualisation

Excellent device visualisation view

Innova CT soft tissue imaging

High resolution cross sections

Post – intervention 3D

3D angio

Transparent view
High Performance
with Advanced Application.

In addition to impeccable image quality at reduced dose, the Innova IQ Pro offers several advanced applications for better outcomes and faster procedures.

StentViz

The unique DRM technology enables unambiguous device visualisation in any region during fluoroscopy itself. In addition, StentViz, an advanced software option, can be selected tableside by one touch to enhance the stent visualisation by automatic processing. The StentViz image is computed and displayed within 30 seconds using advanced algorithms to account for rotation, translation and elastic deformation due to the beating heart.

InnovaChase™

InnovaChase is a unique unsubtracted imaging mode using DRM processing to show the vessels over bones and anatomic landmarks unambiguously. The acquisition is in very low dose and eliminates the need for subtraction and avoids motion artifacts.
InnovaBreeze™

There is also an acquisition method for high resolution on-line, real time subtracted images acquired with continuous table motion. The subtraction is exact even though the table movement during mask acquisition and injection run may be at different speeds as the operator can chase the bolus using the control room hand switch. Subsequent processing includes paste option and also ROI pixel shift corrections. The table moves continuously for better patient comfort and avoids jerks and repeat runs associated with stepping.
InnovaSense™

InnovaSense is a robotic patient contouring technology introduced by GE for better procedures, particularly in busy labs where the operator wants automation and collision-free operation. The technology combines a high speed gantry with highly sensitive capacitive collision detection and robotic movement to contour along the patient body at all times, minimising the skin distance and also maintaining speed of angulation.

Studies have shown > 30% dose reduction* to the operator and better image quality with InnovaSense alone. InnovaSense can be turned off for biopsy and designated procedures.

* Thierry Lefèvre et al; ICPS, France; Reduction of X-Ray Exposure by Patient Contouring. Circulation. 2008;118:S_959

Intelligent Arm for Easy Access.
Quick & Safe

3-Axis Offset C-arm

Maximises patient access from all 3 sides, enables the best view every time and allows great headsider access. It also has a bigger C-arm depth compared to other gantries.
Choice of multiple tabletop controls including smartbox with  
joy sticks or smart handle.

The Tableside Controller TSSC  
can be configured for a variety of  
programmable positions and can  
be installed also in the control  
room.

The tableside touchscreen acts as the central control for all  
functions including protocol  
selection, review, post processing,  
QCA as well as control of IVUS  
and Hemo/EP.

Fluorostore

The high quality low dose fluoroscopy images can be  
archived tabletop and processed  
as regular DICOM runs.

One Touch QA

One Touch QA is an option with Innova Central for QCA to be  
performed tabletop by visualising  
and marking the region of interest  
on the touchscreen itself instead  
of the display monitor.

Smart Handle / Smart Box

Innova Central

Stress-free

for the Easiest Operation.
GE Support

Industry-leading service solutions.

Remote Fix™

InSite remote connectivity enables online monitoring and proactive service including error analysis and remote fix.
Healthcare Re-imagined

GE is dedicated to helping you transform healthcare delivery by driving critical breakthroughs in biology and technology. Our expertise in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discovery, and biopharmaceutical manufacturing technologies is enabling healthcare professionals around the world to discover new ways to predict, diagnose and treat disease earlier. We call this model of care “Early Health.” The goal: to help clinicians detect disease earlier, access more information and intervene earlier with more targeted treatments, so they can help their patients live their lives to the fullest.

Re-think, Re-discover, Re-invent, Re-imagine.

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