SIEMENS

**Healthcare Sector**

Press

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# Siemens presents new product lines for angiography

Siemens Healthcare has developed a revolutionary new X-ray tube and detector technology for its Artis Q and Artis Q.zen angiography systems to improve minimally invasive therapy of diseases such as coronary artery disease, stroke and cancer. In both the Artis Q and Artis Q.zen series, the new X-ray tube with unique flat emitter technology can help to identify small vessels up to 70 percent better than conventional filament X-ray tube technology. The Artis Q.zen combines its innovative X-ray source with a new detector technology that supports interventional imaging in ultra-low-dose ranges. This helps to protect patients, doctors and medical staff, especially during longer interventions. These new developments were presented at the 98th Congress of the Radiological Society of North America (RSNA), demonstrating Siemens Healthcare's continuing strength as an innovation technology leader.

The second generation of Siemens' flat emitter technology is key to the advances made in the X-ray tube for the Artis Q and Artis Q.zen product lines. Flat emitters enable smaller quadratic focal spots that lead to improved visibility of small vessels. Both clinicians and patients benefit from a high level of detail in imaging-supported interventional therapy.

**Examinations using ultra-low dose radiation**

The Artis Q.zen series combines the X-ray tube with a unique new detector technology that allows detection at ultra-low-dose levels. This is the result of several innovations, including a fundamental change in detector technology. Until now, almost all detectors have been based on amorphous silicon. The new crystalline silicon structure of the Artis Q.zen detector is more homogenous, allowing for effective amplification of the signal, significantly reducing electronic noise even at ultra-low dose

levels.

The Artis Q.zen was developed to support excellent imaging quality at ultra-low-dose ranges for the benefit of patients and medical staff. This is especially important in dose-sensitive application fields such as paediatric cardiology and radiology, or electrophysiology, which is being used on an increasing number of patients as rates of cardiac arrhythmia increase in an ageing population.

**Innovative applications for interventional imaging**

In addition to the hardware innovations are several new software applications. The Artis Q and Q.zen will be the first angiography systems to feature IVUSmap, integrating intravascular ultrasound (IVUS) with angiographic images. Simultaneous views of the vessels interior wall via IVUS with precise location on the angio image, IVUSmap efficiently supports doctors in their diagnostics and stent placement. CLEARstent Live enhances the visibility of stents in real-time during therapy whilst simultaneously stabilising the image resulting in a clear image of the intervention without time lag.

Other new 3D applications such as *syngo*® DynaCT micro provides substantial improvements in spatial resolution enhancing the smallest details in crucial areas such as imaging of intracranial stents or other miniscule structures, such as the cochlea in the inner ear. Organs such as the lungs can be imaged in 3D in less than three seconds with *syngo* DynaCT Highspeed, reducing the number of motion artifacts and the amount of contrast agent required. For oncological procedures, personalised therapy is the key to better assess the disease and improve patient outcomes. A new 3D functional imaging protocol, syngo DynaPBV Body, shows the blood distribution by means of colour coded cross sectional blood volume maps, along with quantative measurement of blood volume in lesions in order to assess changes in perfusion over the course of treatment.

All Artis zee systems are equipped with all the latest CARE (Combined Applications to Reduce Exposure) features and CLEAR image post-processing technology, supporting excellent image quality at the lowest achievable doses. Siemens Healthcare has recently upgraded over 2,000 Artis zee systems worldwide to include all of the dose reduction features of CARE & CLEAR at no additional cost.

“We are really pleased to add technology innovations to the Artis family with the addition of the Artis Q and Artis Q.zen angiography systems. As the low dose imaging provider, we push the envelope even further with these latest systems,” states Jane Whittaker, Angiography Business Manager at Siemens Healthcare. “New X-ray tube and detector technology bring improvements to image quality especially within the field of 3D imaging in the angiography suite. Clinical confidence is further enhanced through the systems’ innovative applications for more precise interventional visualisation and measurement.”

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***Picture caption:***
The Artis Q and Artis Q.zen introduce groundbreaking new X-ray tube and detector technology.