

Integrated Ultrasound Functionality for Enhanced Clinical Workflow

Ultrasound in interventional radiology provides additional support for the physician in vessel punctures, insertion of biliary drainage, stents, thermal ablation, TIPSS, nephrostomy procedures and even more.

With the introduction of the new improved version of AXIOM Artis integrated ultrasound solutions, interventional procedures in angiography will become considerably safer and the quality of treatment can be significantly increased. The AXIOM Artis integrated ultrasound unit allows up to two transducers to be connected simultaneously and they are conveniently located on the table accessory rail, providing easy

access to the system, improving workflow and reducing unnecessary delays. Fully integrated, the high quality images are displayed on the multimodality flat screen of the AXIOM Artis system and the ultrasound system is controllable using the joystick at tableside.

With an archiving capability of 50,000 images, including dynamic studies, measurement, annotation tools, imaging processing and DICOM conformance, the integrated ultrasound solution for AXIOM Artis systems increases vascular suite efficiency, maximizes room space availability and ultimately improves patient care.

Intravascular Ultrasound Integration with AXIOM Artis

Intravascular ultrasound (IVUS) is becoming an essential tool for diagnostic and interventional procedures and can now be integrated with the AXIOM Artis system family with flat detector (FD). With the catheter-based IVUS system, interventional cardiologists are given an inside view of the coronal and peripheral vasculature showing vessel and lumen measurements during interventional cath lab procedures. During therapy, IVUS helps to guide and verify proper deployment of the stents. Additionally, it supports both pre-interventional planning and post-interventional analysis to confirm complete stent expansion and stent strut apposition. Siemens Medical Solutions has announced the compatibility of the AXIOM Artis FD family and the s5i Intravascular Ultrasound (IVUS) imaging system from Volcano Corporation. Volcano's recent innovations in the field of IVUS include VH™ IVUS plaque composition analysis, and real-time automated borders and vessel measurements. The integration of IVUS into the AXIOM Artis systems brings many advantages. The s5i system from Volcano can be conveniently controlled at tableside and the images are integrated into the in-room displays of the C-arm system. After the examination is finished, the IVUS images can be stored in the syngo Dynamics Cardiac Information system and can be easily embedded into the final cath lab report.





Fluoroscopy 3D Simulation Premiered in Vienna

The 3D simulation of the AXIOM Luminos® dRF*, the new two-in-one solution for fluoroscopy and radiography, is already the second simulator created by AX and is mainly used for congresses, events and individual customer presentations. It premiered at the ECR 2007 and gained a lot of attention. Customers were queuing up to steer the new system themselves in its virtual environment. The system can be moved from the original operation console and viewed from all sides on the plasma screen. All important system features like the tube and table can be steered to all the relevant positions for fluoroscopy. No wonder that the AXIOM Luminos dRF* was one of the most popular Siemens systems at the ECR 2007.

* Pending 510k in the U.S.

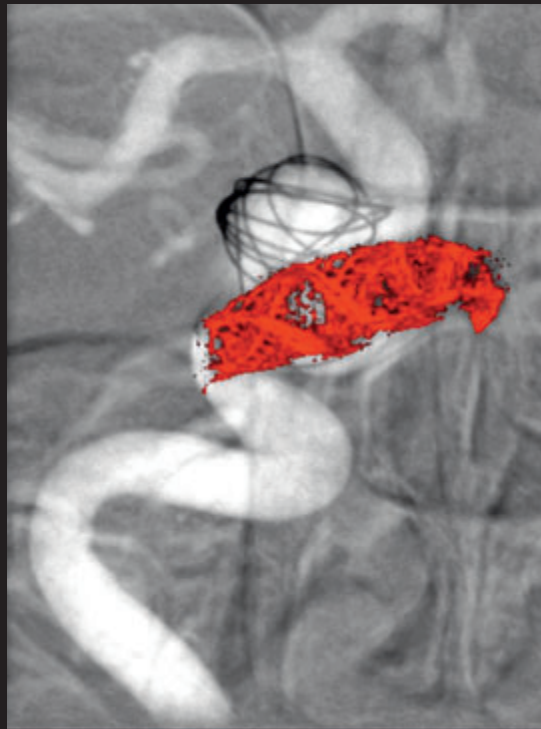
syngo iPilot Guiding Interventions with syngo DynaCT Images

In 2005 *syngo iPilot* was introduced to the market. *syngo iPilot* is an application that can render reference images according to the actual C-arm position. These images can be faded into the live fluoro image on the imaging system. *syngo iPilot* thus provides effective device guidance during interventional procedures in the angio lab. After we gained more clinical experience and collected feedback from our customers, it became obvious that further development of this application had to address three issues: Dynamic adaptation to C-arm and table changes, the ability to retain 2D roadmap images and the potential to account for patient movement.

To achieve these goals, the research and development group spent two

years together with SCR Princeton developing a clinical prototype that addressed these issues. The overlay with the registered 3D volume, mainly *syngo DynaCT*, follows every movement of the C-arm and the patient table automatically. Sophisticated registration algorithms provide correction if patient movement has occurred. After extensive clinical testing on nine sites worldwide, an enhanced *syngo iPilot* is now available.

Continuous image quality improvements and subsequent clinical experience with applications such as *syngo DynaCT* and *syngo iPilot* have made substantial contributions to the entire interventional chain, at tableside, from start to finish: planning, guidance, and assessment.



Coiling of an aneurysm in a 57-year-old female after stent implantation. The 3D image of the stent was recorded to the 2D roadmap used for coiling. Aneurysm and stent could be clearly distinguished.

Courtesy of Prof. Dörfler,
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