

Healthcare Sector Workflow & Solutions Division

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The optical navigation system Cappa C-Nav facilitates minimally-invasive surgical procedures

For surgical interventions, physicians increasingly use modern navigation technologies comparable. With Cappa C-Nav, Siemens Healthcare offers an optical navigation system that is especially suitable for spinal as well as trauma surgery. The new navigation system enables surgeons to perform interventions with greater safety and precision. Additionally, the method also minimizes radiation exposure to the patient as well as the OR staff. Siemens will introduce Cappa C-Nav for the first time at the Congress of the European Federation of National Associations of Orthopaedics and Traumatology (EFORT) in Vienna from June 3 – 6, 2009.

The development of new technologies is propelled forward by the increasing trend toward minimally-invasive operations. Siemens' years of medical engineering expertise in the OR arena follows this trend and is now offering intra-operative imaging and optical navigation technology. Especially orthopedics and trauma surgeons will benefit from this innovative idea.

Precision is a substantial pre-condition in the OR in general, but in particular in spinal and trauma surgery as well as in orthopedics. In spinal surgery for example the new method helps to accurately position pedicle screws in the spine; in orthopedics navigation technology is used to support online visualization during stabilization of degenerated bones. Prior to the operation, the surgeon creates a 3D X-ray data set of the region of interest. This data set is used like a map for orientation during surgical intervention. The surgeon navigates during the operation by using so-called optical tracking via a special stereo camera. The surgeon is able to use the navigation system easily and by himself via a sterile user interface. The surgeon's instruments and patient's body region of interest are provided with differently arranged small reflecting marker spheres. The camera continuously acquires the position of these spheres and informs the navigation system of their location. This enables the surgeon to proceed with even greater accuracy during the

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operation by virtually testing the length of the screws, for example. Also the ability to continuously check the progress and results of an operation may save patients the need for a second surgical intervention.

Cappa C-Nav is optimally tailored for the mobile C-arm Arcadis Orbic 3D and, if needed, can be retrofitted for these systems. Beginning in June 2009, Cappa C-Nav will be available for the first time in Germany, Austria, and Switzerland.

A number of press images of the Cappa C-Nav navigation system can be downloaded under:

<http://www.siemens.com/med-bilder/Cappa-C-Nav>

The **Siemens Healthcare Sector** is one of the world's largest suppliers to the healthcare industry. The company is a renowned medical solutions provider with core competence and innovative strength in diagnostic and therapeutic technologies as well as in knowledge engineering, including information technology and system integration. With its laboratory diagnostics acquisitions, Siemens Healthcare is the first integrated healthcare company, bringing together imaging and lab diagnostics, therapy, and healthcare information technology solutions, supplemented by consulting and support services. Siemens Healthcare delivers solutions across the entire continuum of care – from prevention and early detection, to diagnosis, therapy and care. Additionally, Siemens Healthcare is the global market leader in innovative hearing instruments. The company employs more than 49,000 people worldwide and operates in 130 countries. In the fiscal year 2008 (Sept. 30), Siemens Healthcare reported sales of €11.17 billion, orders of €11.78 billion, and group profit of €1.23 billion. Further information can be found by visiting <http://www.siemens.com/healthcare>.