

Siemens Healthcare introduces the Cios family of mobile C-arms

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At the German Congress of Orthopedics and Traumatology in Berlin Siemens introduced a new version of the Cios Alpha and three additional models of the Cios C-arm family. As imaging systems, mobile C-arms play a key role in the areas of orthopedics and traumatology.

"Compact design and greater ease of use are common features of the entire C-arm family, as are a standardized user interface and high level of performance. The maximum possible X-ray time, an elevated heat capacity to prevent overheating, and a high current range offered by the X-ray tube all help ensure consistently high image quality during lengthy operations, such as heart surgeries lasting several hours," said Mr Francois Nolte, head business line X-Ray products, summarizing the features of the Cios series.

Like the well-established Cios Alpha before it, the new Cios Fusion from Siemens Healthcare features state-of-the-art flat panel detector technology. In total, its field of vision is about 160 percent larger than the standard image intensifier. The Cios Fusion now makes flat panel detector technology available in the medium price segment. This produces an image that is free of geometrical distortion and offers a higher grayscale resolution, making various anatomical structures clearer to see. With two different detector sizes, either 30 cm x 30 cm or 20 cm x 20 cm, this model can be equipped to meet specific requirements. An additional touchscreen that can be located right at the operating table enables the surgeon to control the C-arm from within the sterile work area. The software packages adopted from the Cios Alpha - like the Live Graphical Overlay to mark anatomical structures in contrast-supported examinations, to crop image series elements and play back at different speeds - all help make vascular surgery easier.

Cios Connect is the second new C-arm in the Cios family. It covers a very broad area of application in the medium market segment. This highly reliable system offers low service costs and outstanding value for the money throughout its service life.

Special software options for vascular imaging with the Cios Connect enable physicians to display individual images

simultaneously in subtracted view and in X-ray view, to optimize the presentation of contrast and bone, and to save them directly to the database for documentation purposes. It also offers pulsed X-rays using the subtraction process to ensure better anatomical penetration. This means that vessels can be better represented in cases of stenosis, (vessel constriction), for example. A removable anti-scatter grid also makes it possible to provide pediatric treatment with especially low radiation doses. For lithotripsy - the destruction of kidney stones, for example - the C-arm provides a direct interface to the Siemens Modularis Variostar urology platform, enabling both devices to be operated by a single manual control. Weighing only 248 kilograms, Cios Connect is an extremely light model that guarantees easy handling for OR employees at the operating table.

The third new family member being introduced by Siemens Healthcare is the Cios Select. This is the entry-level model and is intended to serve as a basic product to improve healthcare services worldwide by providing easier access to surgical imaging. It is designed to be especially user-friendly in operation, and its sturdy construction means that the system does not require expensive maintenance. Color-coding facilitates communication during operations. Each direction that the C-arm can be moved is labeled with a color and the brake levers are marked with the same color.

Like the entire Cios family, the C-arm uses the image processing algorithm IDEAL (Intelligent Dose Efficiency Algorithm), which ensures high image quality thanks to continuous contrast and brightness adjustments and automatic dose-performance adjustment - guaranteeing the lowest possible radiation dose for treatment. The Cios Select is the only device in its price segment that also offers a subtraction function that makes it possible to remove overlays, like those caused by bones in vascular images.

Beginning in January 2016, an expanded version of the Cios Alpha is planned to complement the three new C-arms. It will come with the revised version of the Cios software. A large preview image on the touchscreen makes it easier for OR staff to select the appropriate image settings. A metal correction function compensates for metal components in the image at the push of a button, to enable surrounding tissue to be represented with greater contrast: for example, in the case of major implants. To mark anatomical structures, the Live Graphical Overlay function can now be used in all operating modes regardless of the field of clinical application, and is no longer reserved for users in vascular surgery.