

Siemens Healthineers presents self-driving automated C-arm Ciartic Move for faster intraoperative imaging

- **Fully motorized C-arm system can be operated in sterile field by remote control¹**
- **Precise and automated positioning for up to 50 percent² faster intraoperative imaging**
- **Relief of staff and reduction of idle time in the operating room**

Siemens Healthineers has developed an automated, self-driving C-arm system for intraoperative imaging in surgery. Ciartic Move³ is equipped with holonomic, omnidirectional wheels that allow precise movements even in the smallest of spaces and allow easy and accurate positioning. Using a remote control, the system can be moved to previously stored positions with the touch of a button. This relieves the burden on technologists, who previously had to set these manually. In addition, the automated process saves valuable time as the automatic adjustments are more precise and thus can reduce imaging times². Ciartic Move enables around 50 percent² time savings in intraoperative imaging during spine surgery, pelvic surgery and distal radius surgery by allowing the default positions and settings to be saved and recalled during the procedure.

“In conversations with our customers, the urgent need for a fully automated C-arm system to reduce the burden on surgical staff in the field of trauma surgery became apparent again and again. We have been developing this system over the past ten years and are very pleased to be able to introduce Ciartic Move,” said Carsten Bertram, head of Advanced Therapies at Siemens Healthineers. “The automation of intraoperative imaging, complete remote control and ease of use ensure fast and accurate workflows.”

Ciartic Move focuses on several challenges facing healthcare systems. Due to the drastic shortage of medical staff worldwide, it is not uncommon for medical interventions to have to be postponed. This leads to inefficiencies in the clinical process and is associated with longer and unplanned waiting times for patients. In surgery, minimally invasive procedures have also established themselves as the method of choice as far as possible, as they are gentler on patients. However, this increases the demands on clinical staff. Surgical teams tend to be tightly scheduled, with several of these image-guided procedures routinely performed per day. In addition, the work in the operating room is physically demanding. During procedures,

the C-arm, which can weigh up to half a ton, must be repositioned repeatedly to give the surgical staff the exact anatomical views they need in real time. With conventional mobile C-arms, this repetitive manual positioning can be time-consuming and prone to error. Controlling and moving the device within the operating room (OR) and between rooms also requires a great deal of physical effort.

Ciartic Move returns to previously stored positions and settings at the touch of a button at any time during the procedure. Up to 12 process-specific 2D or 3D C-arm positions can be stored – along with the associated image parameters. The system also has an active sensing technology that offers collision protection for greater safety. Touch-sense handles on the back and detector allow for effortless, motor-assisted movements during the procedure and make it easier to steer the system within the OR as well as moving it to another room. In addition, a single person can operate the system remotely, even from the sterile area¹. This makes it possible for appropriately trained surgeons or surgical teams to continue working even when personnel with special expertise in intraoperative imaging are not available.

“If surgical staff are absent at short notice, there is always the risk that procedures will have to be postponed,” said Dr Mario Perl, director of the department of Trauma Surgery and Orthopedics, Uniklinikum Erlangen, Germany. “Thanks to Ciartic Move we can relieve our staff and enable them to focus on patient-centered activities. The automatic return to the previously defined position that we used before allows us to save time and radiation.”

Dr. Paul A. Grützner, director of the department of Trauma Surgery and Orthopedics, BG Klinik Ludwigshafen, Germany: “We have been involved in the development of Ciartic Move for many years and are delighted that a product has been created that really makes our lives easier. Ciartic Move represents a quantum leap for the workflow in the OR with shorter process times and lower radiation exposure.”

¹ Remote system operation from the sterile field proven in a cadaveric setting with 10 human specimens, with orthopedic trauma and spine surgeons, compared with Cios Spin.

² Time savings proven with orthopedic trauma surgeons in a cadaveric setting with 10 human specimens, compared with Cios Spin.

³ Ciartic Move is not available in all countries. Its future availability cannot be guaranteed.

The statements of Siemens Healthineers customers described herein are based on results obtained in the customer's specific environment. Since there is no "typical" hospital or laboratory and many variables exist (e.g. hospital size, sample mix, case mix, level of IT and/or automation adoption), there is no guarantee that other customers will achieve the same results.

A press picture is available [here](#).

Further information on Ciartic Move can be found [here](#).

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