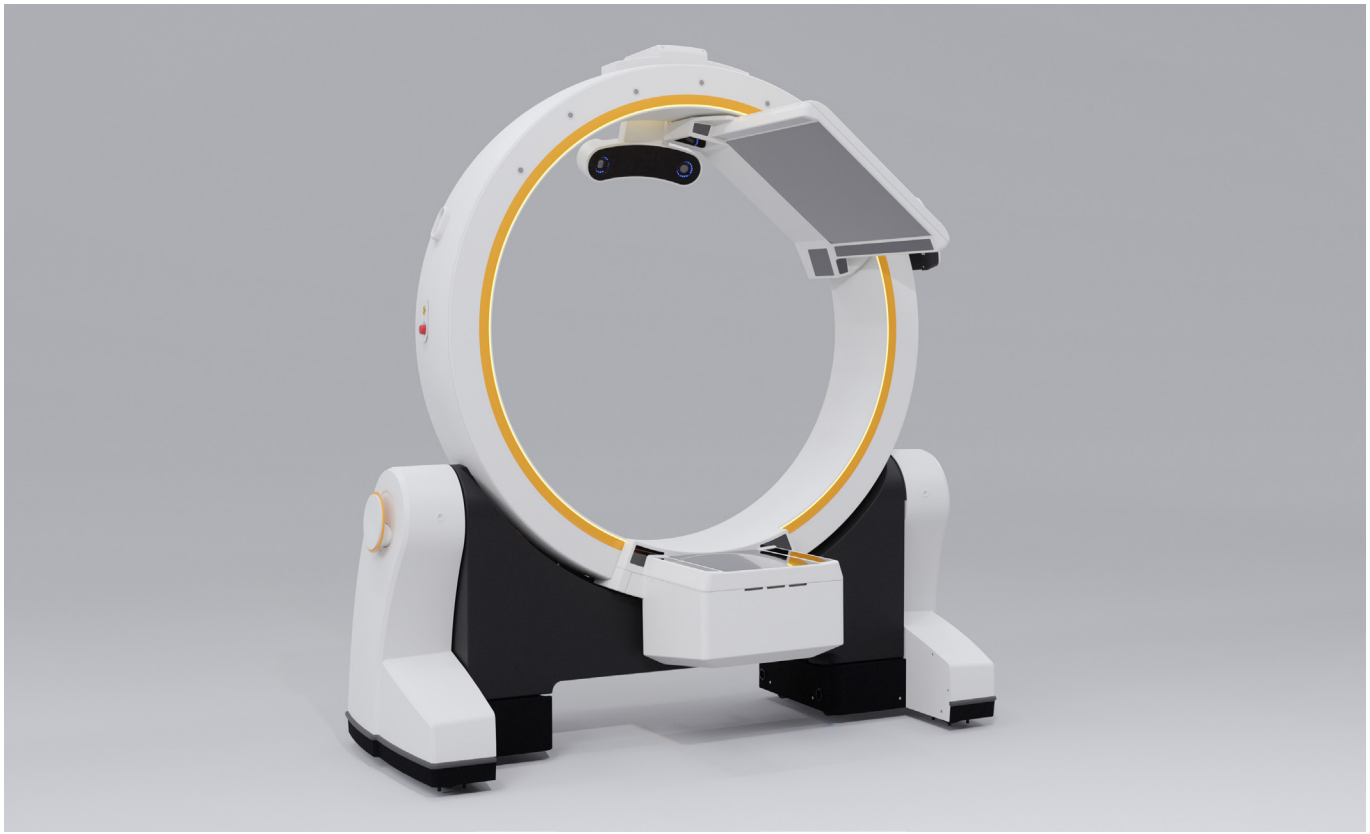
Product

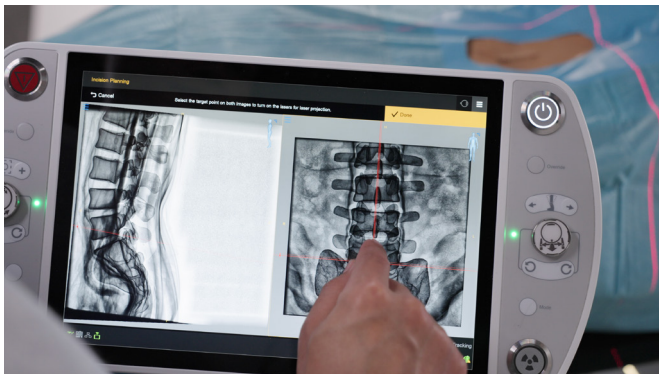
# Loop-X Mobile Imaging Robot



**The new generation of intraoperative cone beam CT now supporting longitudinal scans and 2D registration update* for 3D scans.**

Loop-X Mobile Imaging Robot offers optimal 2D and 3D intraoperative image quality across various clinical disciplines. With more than 140 systems in the market, Loop-X is advancing mobile imaging and robotics, with functionality that sets it apart from conventional devices, e.g., extra-large field of view, non-isocentric imaging capabilities, generous gantry opening, continuous adaptive collimation and robotic movements.

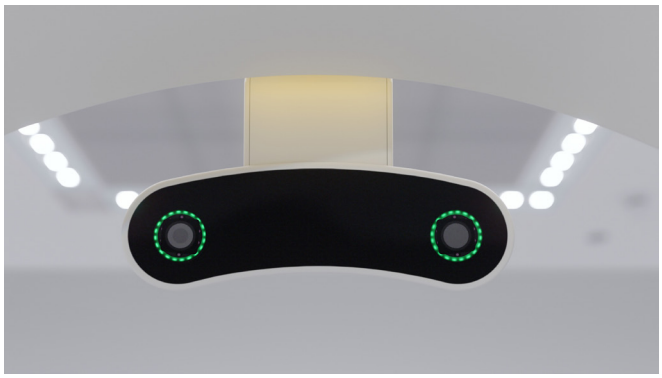
*Registration update available for lumbar and thoracic spine, not yet commercially available in several countries.

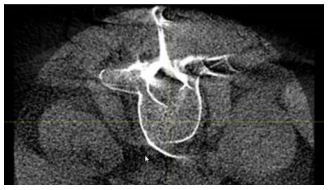


**Spine incision planning and dose savings**
Wizard-guided incision planning allows you to easily identify the correct vertebral level with only two scout views. After defining start and end points on either a 2D lateral or 2D AP image, lasers project those points directly onto the patient's skin to facilitate a quick start to surgery.

When setting up for a 3D scan, the system allows you to re-use the previously acquired lateral and AP shots on an intuitive touchscreen user interface. This feature allows you to save dose as no additional X-Rays are required to define the 3D spin around the patient.

**Robotic realignment to any stored position**
Loop-X is a mobile robotic system which not only stores every X-Ray image during the intervention but also remembers the exact position in the O.R. and individual system settings per 2D image and 3D dataset. Loop-X can then return to those positions at the touch of a button or a tap of the footswitch for quick reacquisition of 2D or 3D scans, moving robotically around the surgical field. Loop-X can also move to align to the location and angle of the navigated pointer, as controlled by the surgeon in the sterile field, allowing for X-Ray acquisition using the 'follow-me' feature.



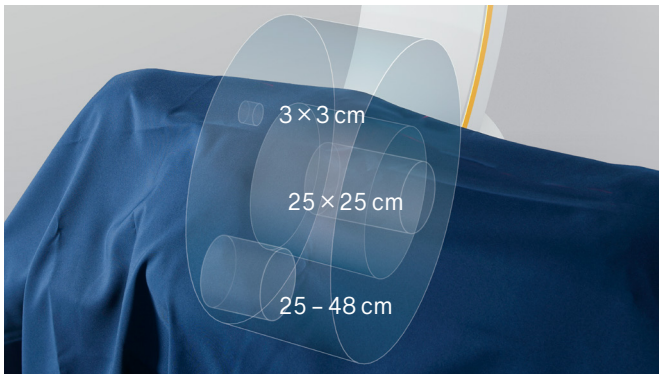


Conventional techniques without Motion Compensation

Loop-X scan with Motion Compensation

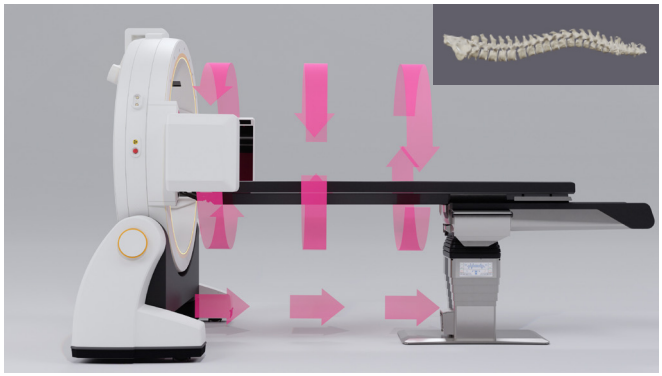
**Motion compensation during image acquisition**
Motion can be a key challenge to 3D image acquisition. With conventional techniques, motion during a 3D scan can result in double contours, blurred images and artifacts. Loop-X provides an onboard tracking camera system to compensate for motion during image acquisition.**

**Not yet commercially available in several countries. Please contact your sales representative.




**Patient-tailored imaging with Dynamic Collimation technology**

With a cylindrical scan volume of 25 cm length and diameter, Loop-X has the option to extend the field of view (FOV) to 48 cm in diameter – specially relevant in orthopedic applications such as pelvic, shoulder and functional localizer scans. This FOV can also be minimized to a scan volume of 3 × 3 cm for smaller anatomical regions such as cochlea. Loop-X Dynamic Collimation technology allows for protection of anatomical regions by focusing on specific regions of interest. Even oval scan volumes are possible due to the Dynamic Collimation and independent movement of the source and detector.

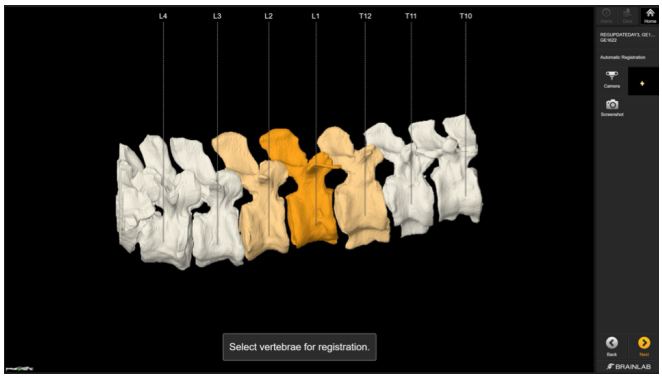


**Longitudinal scans in 3D**

Standard 3D scans with Loop-X provide up to 25 cm of head-to-foot FOV, exceeding the capabilities of conventional C-arms. In addition, new stitching technology allows for scan lengths exceeding 25 cm, e.g., multi-level spine interventions, and long construct and orthopedic extremity scans. Once the scan area is selected, Loop-X stitches together the minimally required 3D volumes and generates one 3D scan.

**Longitudinal scans in 2D**

Loop-X supports long 2D topogram scans. These longitudinal scans are typically acquired across several anatomical regions with different dose requirements. In order to find the balance between the best possible image quality and low dose, Automatic Exposure Control (AEC) manages noise levels over the full body range and provides continuously optimized imaging parameters for different anatomical regions.




**2D registration update for 3D navigation**
For multi-level procedures, Brainlab can provide an AI-based 2D registration update*. With only two new 2D shots, Brainlab's Automatic Registration updates the 3D registration. This feature can eliminate the need for additional 3D scans, saving dose exposure to patients and O.R. staff.

**Optimized user interface**
Loop-X is controlled via a wireless footswitch or a Remote Control Panel (RCP) featuring an intuitive user-friendly interface, a bright touchscreen and two joysticks. This eliminates the need for a separate monitor cart and allows for wireless control from outside the sterile field. Frequently used commands are easily accessible through the Quick Access Menu.


**Variety of scan types**
For 3D scans, you can choose between a variety of different scanning techniques to optimize image quality. Application-specific scan parameters vary between 180° and 360° scans and even offer optional yaw rotation during the 3D image acquisition providing additional anatomical information to optimize image quality and reduce metal artifacts.