



MICROMATE™

Meril

More to Life

# MERIL'S LEAP FORWARD IN INTERVENTIONAL RADIOLOGY



TOMORROW'S  
MEDICAL ROBOT

**TODAY**

Biopsy | Ablation | Drainage | Embolization



MICROMATE™



**Micromate solves the four essential problems all medical robotics should tackle: ease of use, accuracy, consistency, and a ordability.**

**Dr. Marco van Strijen**

St. Antonius Hospital, the Netherlands



## BUILT FOR SAFETY

Our class I medical device **decreases user radiation and patient radiation by up to 55%\*** thanks to its navigated alignment, misalignment detection capabilities and reduced need for control scans.



## ALL-ENCOMPASSING TURNKEY SOLUTION

Micromate comprises a full-fledged portfolio that **supports most imaging modalities** and is compatible with every standard table and biopsy and ablation needles.



## FAST AND ALL-AROUND

Our small robot grants the physician up close or 360° access (even inside the gantry) while **reducing intervention time by up to 57%\***.



## SPOT-ON, EVERY TIME

Our table-mounted robot and live-imaging features grant Micromate users **full-body, submillimeter\* accuracy**.



## SMOOTH SAILING FROM THE GET-GO

**Setup takes less than 5 minutes**, and users get proficient with the system after only a few cases - while keeping their team from making changes to the usual workflow.





## Movement Range

- 40 mm and 30° from center position
- Pre-positioning with Positioning Arm with 7 DOF and 40cm range.
- Place on table can be adjusted along the table longitudinal direction

## Clinical & Mechanical Accuracy

- Average accuracy of alignment to the trajectory:  $0.43 \pm 0.5$  mm
- Average angular deviation to the trajectory:  $0.79 \pm 0.41$  degrees
- Relative: Better than 0.03 mm
- Absolute: Better than 0.2 mm

## Compatible Image Modalities

### Planning and Navigation

- Fluoroscopy, Cone-Beam CT, CT-Fluoroscopy and CT
- Using pre- and intraoperative scans
- Optical navigation capabilities available, with disposable tracker and without the need for dynamic referencing
- Instruments from 8-21G
- Other dimensions available on demand

## Maximum Load

- Robot: Instruments up to 2kg without interruption of motion (halt at 40N)
- Positioning Arm: 5kg without slippage when fully extended

## Product Classification

EU: Class I, per the Medical Device Regulation (MDR) 2017/745 US: Class II, 510(k) cleared for Fluoroscopy/CBCT; Pending 510(k) clearance for CT and CT Navigation

# SEAMLESS WORKFLOW INTEGRATION WITH NO MISSING FEATURES

## SETUP

Seamlessly mount the robot to any standard table, load DICOM data, and automatically register in less than 5 minutes.



## INTRAOPERATIVE PLANNING

Use the pre- and intraoperative scans with a proprietary, intuitive software to accurately plan your single or multi-needle intervention without angular limitations.



## ALIGNMENT

Perform an automatic or joystick-controlled alignment with submillimeter accuracy to your planned trajectories within seconds with the help of navigation and live imaging.



## INSTRUMENT INSERTION

Securely advance your instrument of choice under live-imaging while keeping haptic feedback. Lateral deviations after instrument insertion are signaled by the system, allowing for correction.

