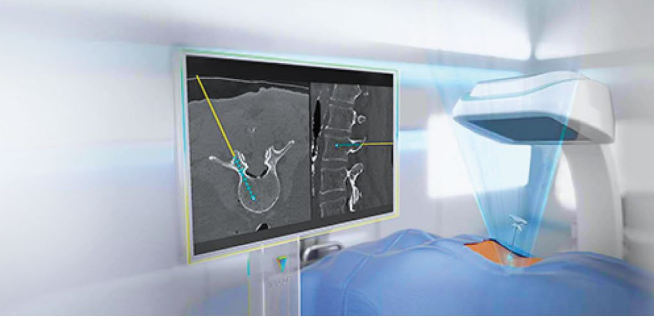




# Software-Based 3D Guidance & Verification for Spine Surgery & Beyond

see us at **NASS 2024** →



SEP2024 M-EX-24-09

The mission of VUZE Medical is to create an improved **Standard of Care** for guiding millions of spinal interventions performed annually. Despite the challenging anatomy, their vast majority is aided in the OR only by 2D X-ray, mainly due to X-ray's simplicity and affordability. Increasingly, it is seeking to migrate to **outpatient and ambulatory settings**, which dictates being minimally-invasive, which stresses the dependence on X-ray.

FDA-cleared, the VUZE™ System is a much-needed software-based complement to traditional hardware-intensive navigation systems. Those all use elaborate and costly equipment (camera arrays, on-tool markers, on-body references, typically an in-OR CT) for navigating on a 3D scan. All demand modified surgical tools, detailed preparations and a restrictive workflow. Available for decades, their use remains limited mostly to complex inpatient surgeries.

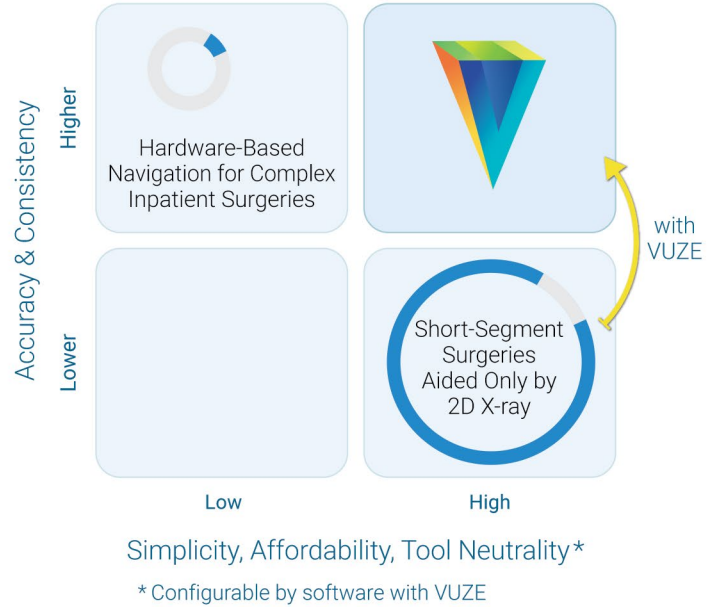
In contrast, VUZE requires only a standard 2D X-ray and an off-the-shelf PC and works with unmodified surgical tools. With proprietary software algorithms, it instantly overlays tools seen in live 2D X-rays on matching vertebral cross-sections from a standard pre-operative CT or an in-OR 3D scan. The familiar X-ray guided workflow is maintained and even simplified (no lateral views are needed). [Watch VUZE System Overview](#)

Early clinical use (over 50 patients) demonstrates very high accuracy in minimally-invasive thoracolumbar fixations, fixations coupled with fusions, and augmentations. Yet X-ray's advantages are all preserved. [Watch Surgeon Impressions](#)

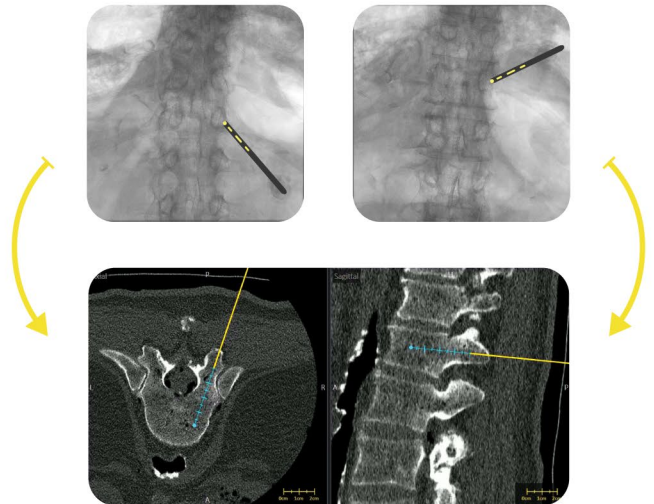
Eleven granted patents address current and future capabilities as well as co-use with robotics, augmented reality, machine learning and traditional navigation technologies. All patents but one are not specific to spine.

With its anatomy-neutral technology, broad applicability is foreseen for VUZE in further spinal (e.g., pain therapy, sacral fixations, open surgery) and skeletal interventions. Many were already demonstrated successfully in cadaveric surgery.

VUZE Medical was incorporated in 2017 in Israel. A ten-person team with seasoned leadership brings strong expertise in adding computer guidance to common interventions, including twice developing an improved Standard of Care: superDimension in bronchoscopies (now Medtronic, ~1,000 installations) and SyncVision in coronary catheterizations (now Philips, ~4,500 installations).



using only a 2D C-arm and a PC running the VUZE software



VUZE detects unmodified tools in live 2D X-rays and displays them on vertebral cross-sections from a standard pre-op CT (or in-OR 3D)

- NO** cameras | **NO** markers
- NO** references | **NO** tool add-ons
- NO** workflow disruptions