



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



FEB 2025 M-EX-25-02

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.

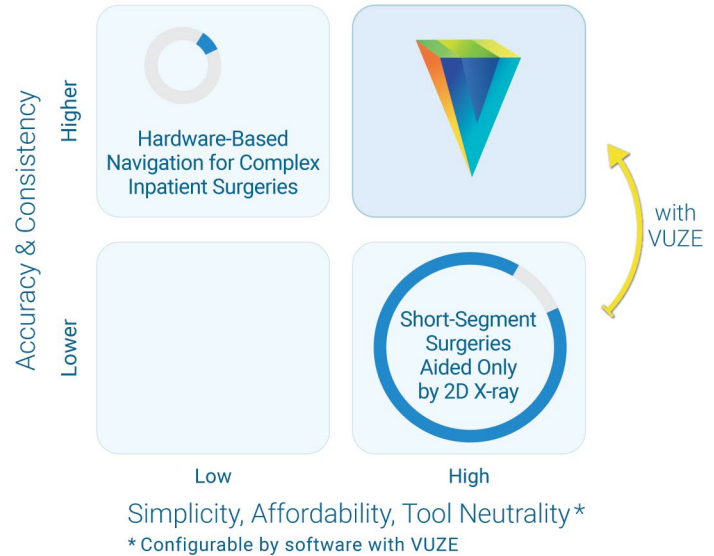
In contrast, VUZE requires only a standard 2D X-ray and an off-the-shelf PC and works with unmodified surgical tools. With proprietary software algorithms, it instantly overlays tools seen in live 2D X-rays on matching vertebral cross-sections from a standard pre-operative CT or an in-OR 3D scan. The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

Early clinical use in over 60 patients by 9 surgeons, as well as cadaveric surgeries by 30 surgeons, show very high accuracy and notable ease of use in minimally-invasive thoracolumbar fixations, fixations coupled with fusions, and augmentations. **Watch Surgeon Impressions**

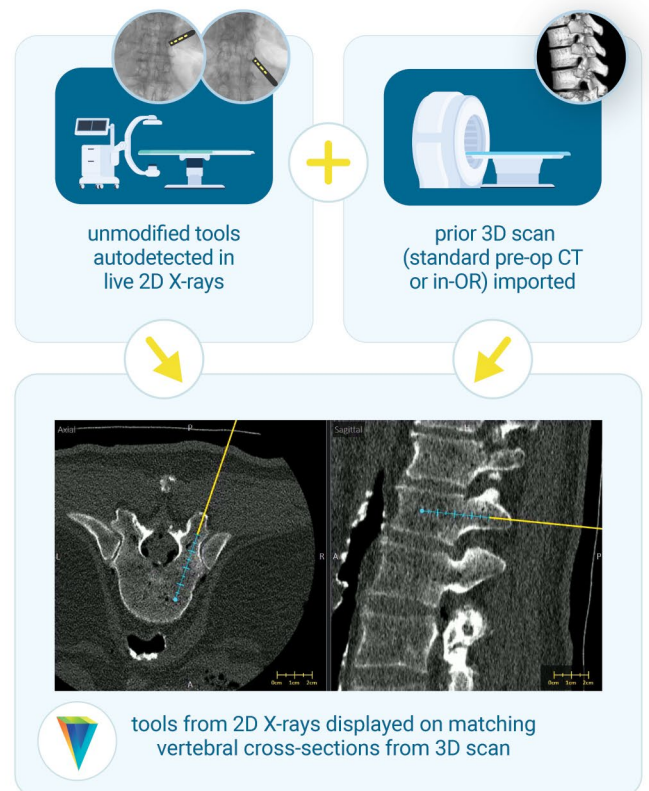
12 granted patents address core capabilities as well as co-use with robotics, augmented reality, machine learning and traditional navigation. All patents but one are not specific to spine.

The anatomy-neutral VUZE technology was already extended in cadaveric surgery to sacroiliac and cervical fixations, pain therapy and open surgery. Additionally, **world first concurrent multi-tool 3D guidance** was performed. **Watch Tandem Mode**

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 & PC running VUZE



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