



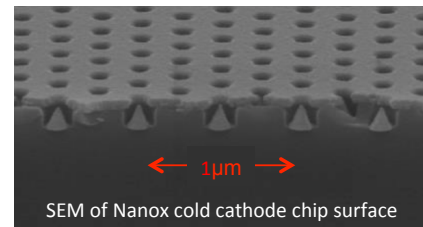
### The Need

At the heart of every contemporary X-ray tube, there is a tungsten filament that has gone virtually unchanged for the past 100 years. X-ray imaging systems based on filaments have many drawbacks: they are inefficient, bulky, have slow switching times, and significant voltage-current dependencies. These features make them poorly adaptable to the changing needs of medical imaging.

### Our Technology

Nanox field effect cathode technology allows X-ray imaging to overcome longstanding impediments to innovation and market growth. Using proprietary MEMS techniques, millions of nano-scale gates and tips are fabricated on each silicon chip. Nanox emitters are far more uniform than carbon nanotubes, and orders of magnitude smaller than conventional Spindt-type cathodes. The result is an emitter with game-changing performance:

- High current density ( $>2.5\text{A}/\text{cm}^2$ )
- No space-charge limit
- Ultrafast switching
- kV - mA independence
- Long lifetime
- Highly uniform emission



### Nanox Enables the Future of X-Ray Imaging

**Superior image quality:** Beam uniformity, precise exposure

control, and dynamic focal spots will improve image quality in all X-ray modalities. Instantaneous switching will improve spectral resolution.

**Increased Imaging Speed:** Because field effect cathodes are not subject to the space-charge limit, high current at low kV can be achieved. Exposure times may be dramatically shortened, improving patient satisfaction and image quality at the same time.

**Improved patient comfort:** Decreased exam times and less bulky equipment will improve the patient experience.

**Dose minimization:** Instantaneous switching will enable reduced radiation dose during pulsed imaging. Stationary-gantry tomosynthesis may become a low-dose alternative to CT fluoroscopy.

**Real-time 3D imaging:** High current, fast switching, and simplified exposure control will enable practical distributed source systems: 3D imaging with no moving parts.

**Portability:** Stationary-gantry CT and tomosynthesis will enable dramatic reductions in overall system complexity, size, and weight.

### Partnership

Nanox has developed unique intellectual property, patents, and capability to design and build reliable and high-powered field effect cathodes. They can be created in practically any shape and size, and require simple control circuitry. This allows them to be adapted to the entire range of X-ray based imaging systems, from mammography to CT, and beyond.

**We are seeking serious co-development partners to bring this exciting technology to market. Please contact us for more information.**

[www.nanox-technology.com](http://www.nanox-technology.com)

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