TripleRing

Next-Generation Equine Imaging

Prisma

Client
Prisma Imaging

Practice Areas
Advanced Imaging

Core Disciplines
Mechanical Engineering
Industrial Design

Challenge

Prisma Imaging needed a CT system capable of safely scanning live horses in a veterinary clinic setting — without general anesthesia. Traditional imaging workflows require anesthesia, introducing significant risk and logistical complexity. The system needed to integrate robotic gantry motion, X-ray imaging, radiation safety, motion capture, and CT reconstruction into a unified architecture capable of accommodating natural patient movement throughout the scan.

Solution

Triple Ring applied cross-disciplinary engineering expertise and systems engineering methodologies to design and integrate a complex imaging platform from concept through assembly. Motion capture and correction technologies were developed to maintain image quality despite natural patient movement, while robotic gantry and X-ray imaging subsystems were designed and integrated into a unified architecture. CT reconstruction algorithms and structured subsystem testing ensured reliable, consistent performance across the full system.

Client Impact

- Delivered a functional gantry-mounted CT prototype capable of imaging horses under conscious sedation
- Achieved image quality comparable to standard CT systems despite natural patient movement
- Eliminated the need for general anesthesia, significantly reducing procedural risk and complexity
- Enabled full-body equine CT imaging across anatomy in a veterinary clinic environment

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