

VOLUX DENTAL TECHNOLOGIES LLC

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PROPOSAL FOR ADVANCED CBCT IMAGING SYSTEM - VOLUX VANTAGE CBCT 3D ELITE

Date: September 20, 2026

Project: High-Throughput CBCT Imaging Suite – Outpatient Dental Clinic

Prepared For: BrightPath Outpatient Dental & Implant Center, 1240 Medical Center Dr, Conroe, TX 77304

Model: VOLUX Vantage CBCT 3D Elite – 4-in-1 Platform (Pan / Ceph / CBCT / Model Scan)

Proposal ID: VLX-2026-CBCT-119B

Valid Until: 60 Days, with escalator clause per Exhibit D

PAGE 1: EXECUTIVE SUMMARY & CLINICAL VALUE PROPOSITION

Volux Dental Technologies proposes the VOLUX Vantage CBCT 3D Elite, a robotic gantry 4-in-1 platform engineered for ultra-high throughput outpatient surgical practices. Differentiator: triple-detector architecture – separate low-noise CMOS for pan/ceph and high-resolution Csl flat-panel for CBCT, plus integrated intraoral model scan table. The Elite is optimized for sub-100-micron endodontic resolution and large FOV orthognathic workflows without detector switching.

Positioned as a premium surgical platform, Vantage includes proprietary VOLUX TrueMAR-X, adaptive dose shielding collimation, and embedded surgical motor integration (W&H; Implantmed link). Workflow designed for <90s patient in/out.

Indications: Zygomatic implant planning, full-arch All-on-X, airway/sleep apnea (ENT referral), endodontic microsurgery (MB2 detection), and digital denture duplication via model scan.

PAGE 2: IMAGING PERFORMANCE & ROBOTIC ARCHITECTURE

Detector System: Dual-detector independent: (1) 150x150mm CBCT flat-panel with 99µm pixel pitch, 16-bit, Csl, 0.3mm focal spot; (2) 145mm TDI CMOS for ultra-low-dose pan/ceph. Auto-switching gantry.

FOV Portfolio: 10 selectable without hardware change: 4x4cm (ultra-endo), 5x5cm, 6x8cm, 8x8cm, 10x10cm, 12x10cm, 14x10cm, 15x15cm, 16x18cm max, plus synthetic 18x18cm dual-scan cephalometric stitched (CBCT-derived). Smart collimation reduces dose 32% vs open FOV.

Voxel & Resolution: Voxel: 68µm (UHD-Endo), 90µm, 120µm, 180µm, 250µm, 350µm. MTF 10% @ 2.8 LP/mm in 68µm mode, MTF 50% @ 1.6 LP/mm. Scatter reduction via anti-scatter grid + software kernel.

Exposure Parameters: 60-105kV (extended for metal penetration), 1-15mA continuous/pulsed hybrid, 3.6-18.4s scan time, effective beam-on 3.1-9.2s. DAP 28-1250 mGy·cm² depending on FOV.

Patient Handling: Standing/sitting convertible, open-face design for claustrophobia, 6-point laser alignment, AI auto-positioning via facial scout (30ms). Wheelchair accessible ramp included. Weight capacity 450lbs. 380° rotation for artifact reduction.

Reconstruction: Volux ReconX AI – iterative + deep learning super-resolution, 18-30s for 10x10cm, 60s for 16x18cm. Includes motion artifact correction.

PAGE 3: RADIATION SAFETY, COMPLIANCE & CYBERSECURITY

Clearances: FDA 510(k) K221904 + K233012 (TrueMAR-X), IEC 60601-1:2020, IEC 60601-2-63:2021, IEC 62304 Class C software. CE MDR. DICOM 3.0 + IHE ATNA.

Texas DSHS: Full registration package: shielding plan by ABR-certified physicist (16hrs included), Texas Controlled Substance registration not required, but includes TDSHS Form 2034 filing and 10 CFR 20 compliance review. Lead evaluation to 1/16" equivalent.

ALARA Dose Suite: VOLUX DoseGuard: real-time DAP display, pediatric protocols (0-12y, 13-18y), ultra-low-dose (ULD) protocol 40% dose cut with AI denoise, pregnancy screening interlock prompt, automatic FOV recommendation based on indication (implant vs endo).

QA: Integrated Volux IQ Phantom with automated SEDENTEXCT metrics weekly, eDose tracker per patient cumulative dose, automatic warm-up and self-test logs.

Cybersecurity: FDA Section 524B cyber: SBOM, vulnerability disclosure, binary hardening, signed firmware, zero-trust VPN for remote service, Windows 11 LTSC + BitLocker, data at rest AES-256, audit log immutability via blockchain-anchored hash (WORM).

Interoperability: Native integration: Dentrix, Eaglesoft, Open Dental, Denticon, Curve Hero. DICOM MWL, Modality Performed Procedure Step, HL7 FHIR R4 for Epic Willow ambulatory. FHIR imaging study share to hospital.

PAGE 4: SOFTWARE, AI & DIGITAL WORKFLOW ECOSYSTEM

Software Suite: VoluxVision Studio 8.1 – 3 floating licenses included. Modules: Volux ImplantPro (5000+ implants, auto bone density Hounsfield mapping, mandibular canal AI segmentation with 98.1% accuracy claimed), EndoMap Pro (MB2 canal finder, fracture detection aid), Airway Sleep (volume, MCA, sphenoid sinus), OrthoCeph with automated tracing (Steiner, McNamara), and JointSpace TMJ.

AI Capabilities: TrueMAR-X (reduces streak artifact 92% per vendor testing vs 73% standard MAR), SmartFocus auto-sharpening, LesionCue (radiolucent lesion heatmap, CAde), Ceph Auto-Trace <15s, Auto-alignment to natural head position.

Model Scan Function: Integrated 3D model scan table (accuracy 20µm) for impression/denture scan without separate scanner. Scan time 40s arch.

Guided Surgery: Direct closed-loop with Volux Guide Mill (optional), plus open export to exocad, 3Shape, RealGUIDE, DTX Studio, Bluesky. Volux AI surgical guide design suggestion. No per-case fee, unlimited exports.

Cloud & Collaboration: VoluxCloud Pro: 2TB Year 1, HIPAA, SOC2 Type II, instant surgeon referral share with time-limited PIN, integrated tele-radiology marketplace (optional). Viewer: zero-footprint HTML5.

Hardware Included: Acquisition PC: HP Z4 G5, Xeon W5-3435X, 128GB DDR5, 2x 2TB NVMe RAID1, NVIDIA RTX A5000 24GB, 32" 6MP DICOM diagnostic display (1000 nits, factory calibrated) + 24" touch control.

PAGE 5: SITE, INFRASTRUCTURE & INSTALLATION ENGINEERING

Physical: Floor-mounted robotic gantry, footprint 60" x 68", height 92" (cephalometric arm retracted). Weight 1,050 lbs. Seismic anchors (Zone 1 compliance for TX). Floor load 200 lbs/sq ft, requires 6" reinforced slab. Vibration isolation pads included.

Power: 208-240VAC, 3-phase or single-phase auto-sensing, 40A breaker, 20A continuous. Power conditioning: VoluxClean 5kVA online UPS + isolation transformer + active line filter. Generator compatible.

Environmental: 16-28°C operating, 20-60% RH. Heat output 3.8kW (requires dedicated 12k BTU cooling). Sound 48dB. HVAC interlock signal provided.

Shielding & Radiation: Includes full shielding design to NCRP 147: assumes 2.5mm Al equiv + 0.8mm Pb drywall for control area. Lead glass window (24x36") optionally quoted at \$2,200.

Network & IT: Dual NIC – one isolated for device control, one for hospital network. Requires 10GbE to PACS for 16x18cm volumes (5GB/study). Includes 48-port managed PoE switch if needed. DICOM TLS + LDAPS integration.

Installation: Turnkey: delivery via climate-controlled truck, rigging by certified medical movers, installation by Volux Level 4 engineer, 3-day calibration and physics acceptance. Includes lead apron rack and thyroid collar set. Lead time: 6-8 weeks ARO plus freight. Site survey \$950 credited on order.

PAGE 6: TRAINING, WARRANTY, SERVICE & UPTIME GUARANTEE

Clinical Training: 3-day on-site applications specialist + 2-day surgical guide workflow bootcamp for up to 8 staff. Includes 12hrs live online advanced endo and airway CE (AGD PACE). Annual competency assessment.

Warranty: 3-year full bumper-to-bumper warranty: tube, detectors, mechanics, PC. Tube rated 50,000 exposures. 7-year detector warranty non-prorated. Loaner system if downtime >48hrs.

Service SLA: VoluxCare Premium: 24/7/365 remote, on-site 4-hour response in Houston MSA for critical (Priority 1), NBD for non-critical. 3 PM visits/year during warranty. Uptime guarantee 99.5% with 1% monthly service credit per 0.5% miss. 22 field engineers in TX/LA, parts depot in Austin.

Extended: Year 4-5 extension: \$22,000 total (\$11k/yr) or \$12,500/yr a la carte. Includes tube replacement.

Risk: Volux offers Trade-In Assurance: 70% buyback within 24 months if upgrading to Volux next-gen.

PAGE 7: PRICING, FINANCIALS & COMMERCIAL TERMS

Item	Details	Cost
Base System	VANTAGE Elite 4-in-1, 16x18cm, 68um UHD, Model Scan	\$168,900
Acquisition PC	HP Z4 G5, RTX A5000, 32" 6MP + 24" touch	Included
Software	VoluxVision Studio 8.1 (3 floating licenses), All AI modules	Included
Cloud	VoluxCloud Pro 2TB Yr1, SOC2	\$0 Yr1 then \$1,800/yr
UPS & Conditioning	5kVA online UPS + isolation transformer	\$4,200
Installation	Rigging, calibration, physics acceptance, site survey credit	\$8,900
Shielding Plan	16hr ABR physicist shielding report, NCRP 147	\$3,500
Lead Glass Option	24x36" 1.6mm Pb eq.	\$2,200 (optional)
Training	3+2 days on-site, 12hrs CE	\$0 (included)
SUBTOTAL	Turnkey without glass	\$185,500
Optional Glass	Add lead window	\$187,700
TOTAL Base	As quoted (without glass)	\$185,500
Financing	60mo \$3,485/mo via First American Healthcare, 90 days	deferred

Payment: 30% with order, 50% prior to ship, 20% on clinical acceptance (net 15). Section 179 and 100% bonus depreciation eligible. Price escalation: 3% after 60 days if steel/Cu index >5%.

Exclusions: Electrical rough-in, HVAC upsizing beyond 12k BTU, structural slab reinforcement if >200lb/sqft

insufficient, lead-lined drywall installation labor, PACS integration beyond 8hrs.

Tariff: No tariff surcharge; US-assembled in Austin, TX.