

Client summary

Gold Coast University Hospital, one of Queensland's largest public health networks, faced growing challenges in its dental imaging environment. Relying on Carestream Version 7 across five sites and 15 mobile vans (still using film and chemicals), the system suffered from slow startup times, flat-file storage inefficiencies, and manual data entry errors. These challenges posed a risk to clinical outcomes and operational efficiency.

Challenge/ Opportunity

ARO Systems was engaged, alongside Ivoclar, to modernise the dental imaging infrastructure. This included upgrading to Carestream Version 8 and integrating the state-wide dental management system ISOH, with DICOM and HL7 protocol support.

Scope of Work

ARO Systems contributed to every phase of the four-stage upgrade:

Stage 1: Software Upgrade to Carestream Version 8

- Migrated legacy imaging data to a faster, SSD-based SAN at GCUH
- Installed Version 8 on all campus sites, ensuring site-specific configuration with DICOM AE Titles
- Integrated iQ-ROUTER for reliable image forwarding even during outages

Stage 2: ISOH Integration & DICOM Modality Worklist

- Implemented HL7 interface for patient data synchronisation between ISOH and Carestream
- Installed iQ-WORKLIST to allow clinicians to select patients from a worklist, eliminating manual data entry
- Established bidirectional DICOM connections to the Long Term Imaging Archive (LTIA)

Stage 3: Digital Conversion of Burleigh Site

- Installed Carestream CS7600 digital sensors and software
- Prepared DICOM-based study transfer and retrieval from the LTIA
- Delivered onsite training for clinicians

Stage 4: Digital Conversion of 15 Mobile Vans

- Installed Carestream V8, CS7600 PSP Scanners, and mobile iQ-ROUTERS
- Enabled secure VPN connectivity with 4G/5G routers
- Trained mobile clinicians to use digital workflows
- Delivered onsite training for clinicians

ARO Systems' Key Contributions

- Led solution architecture design, including network and server planning
- Deployed and configured Carestream Version 8 systems across all sites
- Ensured reliable imaging workflows with iQ-ROUTER and iQ-WORKLIST setup
- Provided hands-on training and remote support for hospital IT teams and dental staff
- Developed documentation, risk registers, and milestone-based sign-offs

Results & Impact

- Operational Efficiency: Reduced startup time and eliminated duplicate data entry
- Clinical Safety: Enabled accurate, real-time access to dental imaging
- Future-Proofing: Built a redundant, scalable digital infrastructure across fixed and mobile sites
- Compliance: Aligned with Queensland Health's data protocols using HL7 and DICOM standards



Why GCUH Chose ARO Systems

"ARO Systems provided hands-on expertise, deep product knowledge, and collaborative planning that enabled the successful transformation of our dental imaging systems. Their partnership was instrumental in delivering a safer, more efficient clinical environment."

Bianca Taylor, Senior Project Manager (Digital), GCUH