

CASE STUDY

A dark grey, handheld medical device with a screen and buttons. The screen displays a 3D model of a human face with various colored markers. The device has a ergonomic grip and a lens at the bottom.

Client

New Cross Hospital, Wolverhampton UK
Oral & Maxillofacial Surgery Department

Product

3DeVOK MT

Industry Sector

Health



EXECUTIVE SUMMARY

For the Oral and Maxillofacial Surgery team at New Cross Hospital in Wolverhampton, reliance on physical impressions and complex CT scheduling created significant workflow challenges.

This case study explores how the introduction of the 3DeVOK MT scanning system provided a non-invasive, efficient alternative. By digitising facial geometry in seconds, the department validated a solution that improves patient comfort, streamlines lab processes, and meets strict safety and budget requirements.

For departments facing similar pressures around patient experience, workflow efficiency, and access to digital data, this case demonstrates how quickly digital capture can be introduced within existing clinical processes.

Client

New Cross Hospital,
Wolverhampton UK
Oral & Maxillofacial Surgery
Department

Product

3DeVOK MT

Industry Sector

Health



THE CLINICAL CHALLENGE

For Dave Ellis (Prosthetist) and his technical team, the daily reality of facial reconstruction and prosthetics involved invasive and time-consuming procedures. The standard of care — taking physical impressions — creates significant friction in the clinical workflow.

Primary Clinical Pain Points:

- **Intrusive Patient Experience:** Alginate impressions can be distressing and uncomfortable for patients who are often already dealing with trauma or post-surgical sensitivity.
- **Degrading Assets:** Plaster moulds are heavy, fragile, and degrade over time. Storage is a logistical headache, and if a mould breaks, the patient must endure the impression process again.
- **CT Bottlenecks:** Accessing high-quality digital data often meant scheduling CT scans. This placed the prosthetics team in competition for radiology time, leading to scheduling delays and increased costs for non-diagnostic scans.

The team needed a solution that could liberate them from the "plaster room" limitations without sacrificing the sub-millimetre accuracy required for prosthetic fits.



THE SOLUTION

The department trialled the 3DeVOK MT, a dedicated 3D scanning system designed to capture high-fidelity facial geometry without physical contact. Unlike general-purpose industrial scanners, the 3DeVOK MT is optimised for the speed and texture capture required in clinical environments.

The system was introduced to address the specific need for a "digitise once, reproduce indefinitely" workflow, allowing the team to move from physical storage to a digital library.



THE TRIAL

During a comprehensive demonstration at New Cross Hospital, the clinical team put the system to the test. The focus was not just on technical specs, but on practical, hands-on usability in a busy lab environment.

“

It's so much less stressful for patients. They're in and out in under a minute, and no one's uncomfortable with trays or materials.

”

Dave Ellis,
Prosthetist



KEY VALIDATION POINTS

- **Rapid Capture Speed:** The scan times were reduced to under a minute. For a patient sitting in a chair, this speed is critical to minimising movement artifacts.
- **Immediate Usability:** The team found the learning curve to be minimal. The "point-and-shoot" nature of the device meant that technical staff could operate it confidently without extensive engineering training.
- **Seamless Digital Handover:** The scan data was immediately available for inspection, showing high-resolution texture mapping that allowed the team to visualise skin tones and anatomical landmarks clearly.

“

"The speed of capture is a game-changer. Moving from an intrusive alginate impression to a sixty-second non-contact scan transforms the patient experience from an ordeal into a simple consultation."

”

Dave Ellis,
Prosthetist

“

I was impressed with how straightforward it was. You don't need to be an engineer to get precise, usable data almost instantly—it fits right into our workflow.

”

Conrad Taylor,
Deputy Laboratory Manager

RESULTS & OUTCOMES

The trial demonstrated that the 3DeVOK MT successfully bridged the gap between clinical requirements and operational feasibility, delivering benefits for both the clinical team and the wider hospital administration.

1 Patient-First Care Delivery

The shift to non-invasive scanning removes the claustrophobia and discomfort associated with physical moulds, supporting the Trust's focus on improving patient pathways and reducing clinical invasiveness.

2. Operational Efficiency & Safety

Key operational requirements were addressed during the evaluation, ensuring the technology is safe and sustainable for departmental use:

- **Safety Compliance:** The system uses eye-safe structured light technology, reviewed by medical physics and confirmed safe for patient use without special shielding or bunkers.
- **Regulatory Clarity:** The scanner is not classified as a medical device, simplifying procurement and maintenance while remaining appropriate for clinical planning and prosthetic design.
- **Workflow Independence:** Moving digitisation into the prosthetics lab reduces reliance on Radiology resources, freeing CT scanners for acute diagnostic needs.

3. Multi-Disciplinary Value

While primarily used for facial prosthetics, the digital assets also support surgical planning and 3D archival. Open-format file export allows seamless integration with existing CAD and 3D printing workflows used by technicians such as Conrad and Anna.

CONCLUSION

The demonstration at New Cross Hospital confirmed that the 3DeVOK MT is more than just a piece of hardware; it is a workflow enabler. For Clinical Prosthetics Leads, it solves the immediate problem of patient discomfort and material waste. For the wider Directorate, it represents a low-risk, high-value step towards modernising clinical workflows without disrupting existing processes.

Departments facing similar challenges often assume that moving to digital capture requires significant change. The experience at New Cross Hospital demonstrates that integration can be achieved quickly, with immediate benefits for both patients and clinical teams.

If your department is still relying on physical impressions or waiting on Radiology access for digital data, it may be worth exploring how quickly this approach could work within your own workflow.

Speak to the T3DMC team to see how digital facial scanning could be introduced into your department and start benefiting from faster, non-invasive data capture sooner.

