

Think your complex restorative procedures can't be simplified?

Think again.



Why accuracy matters:

- Ensures restorations fit seamlessly
- Reduces remakes
- Enhances efficiency

Understanding accuracy in dentistry.

Accuracy impacts everything you do, from ensuring bridges and implant restorations fit properly to keeping margins tight and ensuring long-term stability.

Local accuracy refers to the precision of the restoration in small, specific areas. It ensures the precise capture of individual tooth surfaces.

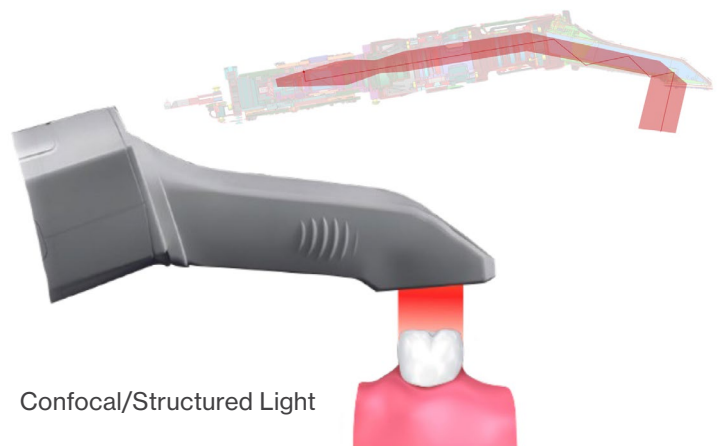
Global accuracy refers to the full arch, large-scale fit of the restoration. It's essential for procedures that require precise measurements across multiple teeth or the entire arch, such as long-span bridges and full-arch restorations.

The limitations of current confocal technology.

Full-arch implant cases (all-on-X) can be challenging for conventional scanners. Intraoral scanners create 3D models by capturing thousands of tiny images of a patient's anatomy and stitching them together into one big picture.

The fewer segments it has to combine, the greater the risk to accuracy.

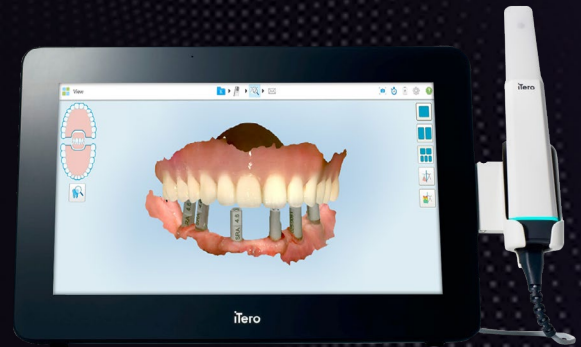
For complex cases, like full-arch implant restorations, the distance between scanned points is larger and the probability of errors increases.



Confocal/Structured Light

A single iTero Lumina™ scan is within accuracy thresholds of photogrammetry for full-arch implant restorations².

One scan, one device,
designed to save time, operatory space and costs.



The iTero Lumina intraoral scanner makes accurate scanning feel effortless.

From dental exams to treatment and monitoring, the all-in-one iTero Lumina intraoral scanner makes scanning feel effortless. It offers superior clinical accuracy¹ and outstanding simplicity for highly efficient workflows – helping to reduce effort and saving time without compromising on precision.

Photogrammetry offers accuracy – at a price.

Photogrammetry is currently considered the gold standard for accuracy, as it often hits passive-fit benchmarks. The disadvantages of this method are the multiple steps which can result in extra chair time, discomfort for patient, and the high equipment cost of the photogrammetry scanner and specific scan pins.

Alternative technologies.

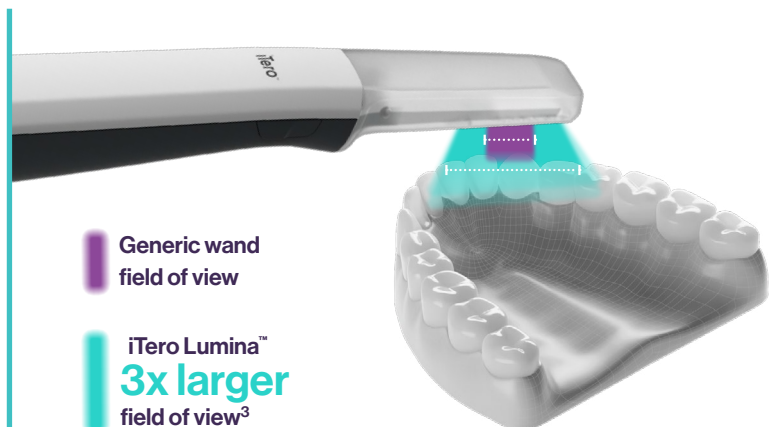
Some hybrid approaches integrate special scan body pins. While complexity is significantly reduced and accuracy seems to be increased, it still requires specific scan bodies, adding extra steps and causing discomfort for your patients.

3x larger field of view³ for simplified capture.

iTero Multi-Direct Capture™ (MDC) technology packs six cameras and five projectors at the wand's tip, for a larger field of view³ and greater depth of capture. That means larger segments, less segments stitching and superior clinical accuracy¹.

For a more in-depth look, read "Trueness of extraoral photogrammetry, intraoral photogrammetry and direct intraoral scanning in the full-arch digital implant impression."

[> Read the article](#)



1. Based on bench testing conducted using ADA/ANSI 132 standard Model simulating "long distance accuracy (full jaw measurement)" in July 2024. Method: Comparative test to evaluate full arch accuracy (global accuracy), repeatability and reproducibility of intraoral scanners as described in ADA standard 132 [2015]; Sample definition: 3 operators performed 30 repetitive scans with each tested scanner; Sample size: n=90 (3x30) scans for each scanner tested; Tested scanners: iTero Lumina; Trios 5; CS3800; Medit i700; Allied Star; Results: The accuracy of iTero Lumina is significantly higher than that of all 4 competitors; with a reduction of total error ranging from 0.11% to 0.46%. Accuracy was defined as the accumulated average error + STD of all measurements specified in the standard. Data on file at Align Technology, as of August 26, 2024.
2. Based on bench testing conducted in January 2025 according to ISO 20896-2:2023 vs. Ground truth: Imetric icam 4D Photogrammetry system; Sample size: n=10; 5 upper arch model (All-on-6) and 5 lower arch model (All-on-4). Thresholds were defined as Horizontal error <50µm; Vertical error <30µm² & Angular deviation < 0.4°.
3. The iTero Lumina intraoral scanner offers 3x larger field of view enabling faster scanning. Compared to the field of view of the iTero Element™ 5D imaging system, when the iTero Lumina intraoral scanner's scanning distance is 12 mm. Data on file at Align Technology, as of November 15, 2023.