Trad and tech: Dt Tsuji on the transformative role of exocad in Japanese dentistry

From CAD-based denture design to DICOM data integration, Dt Tsuji offers an insightful look into how exocad is reshaping dental workflows in Japan — while honouring the enduring spirit of craftsmanship that defines its dental industry.

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Based in Japan, **Dt Tsuji** is also the founder and CEO of dental BiOVISION, a dental laboratory in Osaka that combines the latest digital technology with a custom experience for each patient

In the rapidly evolving world of digital dentistry, striking a balance between tradition and innovation can be a challenge. For Dt Tsuji, a practising clinician, part-time educator, and influencer for exocad, however, that balance is exactly what defines his approach.

With over two decades in the field and several years of experience using digital tools, he brings a unique perspective to the ongoing digital transformation in Japanese dentistry.

Though a relatively recent adopter of exocad, Dt Tsuji's journey with the software has been a deliberate and enthusiastic one.

"Actually, I haven't been using exocad for very long," he admitted. "I've been using other CAD software for many years, so I've only been using it for about four or five years. From the moment I started using it, I knew it was a great piece of software."

One of the most impressive aspects of exocad, in Dt Tsuji's view, is its versatility across the spectrum of digital dentistry.

"exocad excels in every aspect, from preoperative diagnosis to the design of crowns and implant prostheses," he said. "But I feel that the PartialCAD software in particular has evolved dramatically in recent years. The greatest appeal of the partial denture module is that it allows you to arrange the artificial teeth, design the frame, and design the denture base simultaneously, and output the data for each."

SEAMLESS INTEGRATION FOR MODERN WORKFLOWS

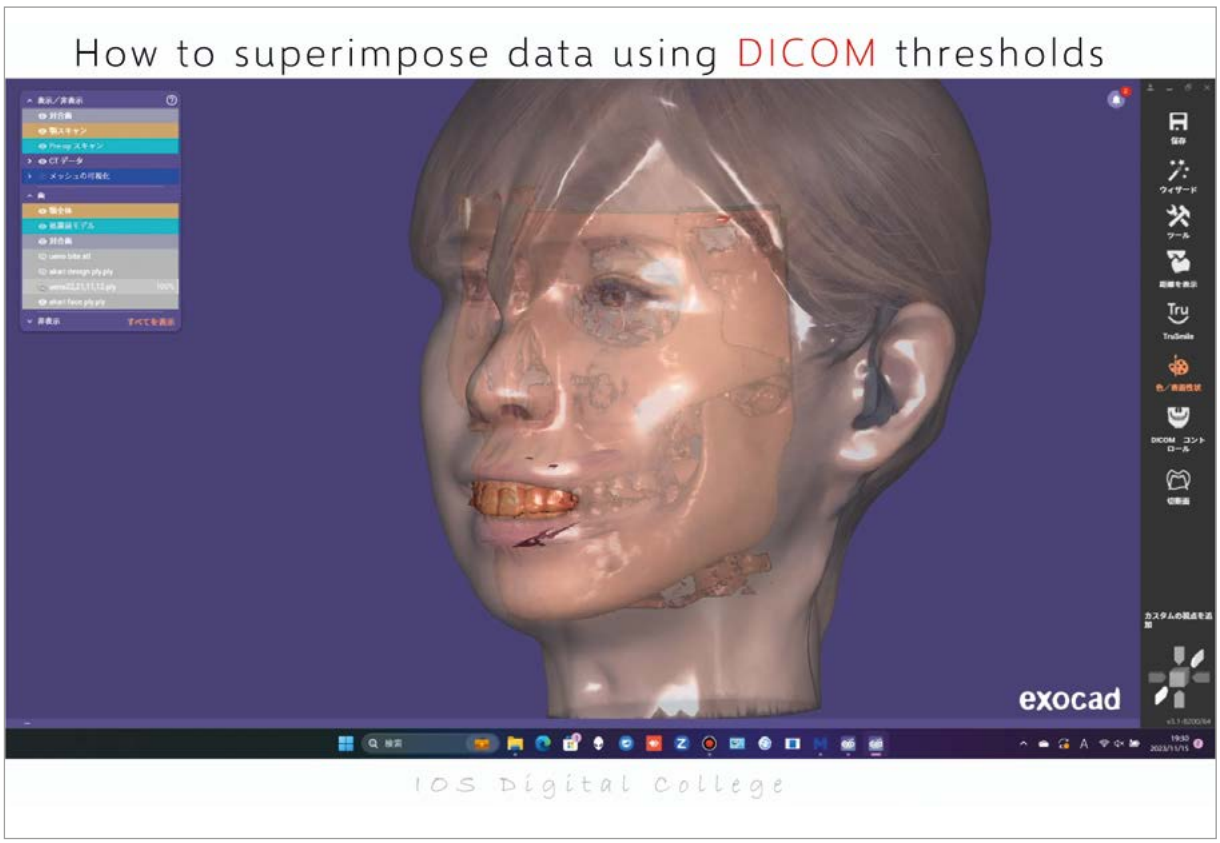
As the head of a modern dental laboratory, Dt Tsuji has seen first-hand how digital workflows can streamline collaboration between clinicians and labs.

"Currently, most of the work in my lab is done with optical scanner data sent from clinics via the cloud," he explained. "exocad is linked to iTero, so the data sent from MyiTero can be imported directly into exocad, allowing for a smooth transition to design."

He emphasised the importance of being able to work with diverse datasets, from intraoral scans to facial and DICOM data, within a single software platform.

"When designing in CAD, it is necessary to overlay several jaw data with different coordinates, 3D faces, and sometimes DICOM data, and exocad has excellent functions for overlaying such various data," he elaborated.

Among the many features, one stands out as particularly transformative: "My favourite is the DICOM Viewer," he noted. "I was surprised that I could import DICOM data directly into exocad without converting it to STL, and that I could even perform threshold conversion. It's a great function."



A CASE FOR DIGITAL PRECISION

Recalling a recent clinical case that demonstrated the full power of exocad's DICOM integration, Dt Tsuji shared:

"We needed 3D facial data to determine the ideal tooth position in the preoperative diagnosis before implant insertion. When overlaying data with different coordinates, a reference point is always needed, and by using DICOM data and changing the threshold value, we can find accurate reference points to overlay the optical scan data and facial data."

This case has since progressed to the stage of provisional prosthesis design, and stands as a clear example of how digital tools are enhancing both precision and predictability in implantology.

EDUCATING THE NEXT GENERATION

In addition to his clinical and lab work, Dt Tsuji is passionate about education both in formal institutions and through private seminars.

"I currently teach part-time at a dental technician school and hold private seminars for dentists and dental technicians," he said. "I feel that my role is to convey the appeal of exocad as a digital tool to people of all generations, as well as the younger generation who will become technicians in the future."

He sees digital tools as offering more than just efficiency — they represent a fundamental shift in how dental professionals think and learn. "Most analogue techniques are done by feel, but with digital, everything can be quantified. This can stabilise the quality of treatment," he noted.

The ability to revisit and analyse digital designs is a powerful advantage in an educational setting, he added: "People who are highly motivated to learn review their own past designs and designs made by people with more skills than themselves to improve their own skills."

NAVIGATING JAPAN'S UNIQUE LANDSCAPE

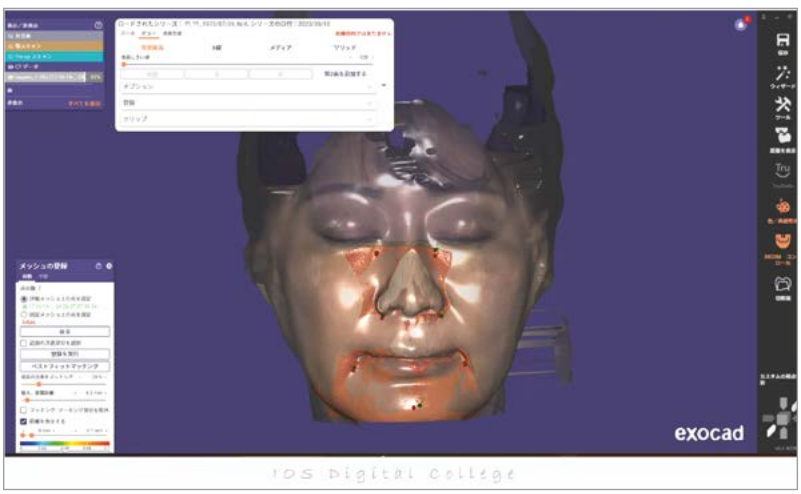
Despite the clear advantages of CAD/CAM workflows, Japan's dental industry faces some unique barriers to adoption. "More than 95% of dental laboratories in Japan are small laboratories with fewer than five people," Dt Tsuji explained. "That means it is difficult to make large-scale capital investments."

While software like exocad is becoming more common, he noted that "the penetration rate of processing machines and 3D printers may not be that high". Moreover, Japan's culture of meticulous craftsmanship presents its own paradox, where "[m]any excellent Japanese dental technicians are reluctant to embrace digital technology, for better or worse, because of their craftsman spirit."

He saw two key priorities moving forward: "Firstly, to create an environment where small laboratories can cooperate with each other and make large capital investments, and secondly, to aim to improve digital literacy through education."

WATCHING TRENDS ON THE HORIZON

Dt Tsuji has been watching a range of emerging trends that are poised to impact Japanese dentistry. Chief among them is AI.



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Japan's dental industry faces a unique set of challenges, according to **Dt Tsuji**.

"AI is being used in various environments in our daily lives," he observed. "exocad has finally launched an AI crown design service.* There is a chronic shortage of dental technicians in Japan, so I think AI crown design services will become more widespread in the future."

Another area gaining attention is digital dentures — an increasingly relevant solution given Japan's ageing population.

"Japan has a high elderly population, and there is a high demand for dentures. Meanwhile, the number of laboratories specialising in dentures is decreasing," he explained. "Given this background, it will become more common in the future to efficiently create denture designs using CAD and then use milling machines or 3D printers to print them."

LOOKING AHEAD: NEW TOOLS AND NEW MINDSET

With an eye on the future, Dt Tsuji sees exocad playing a key role in expanding both access and precision in Japanese dentistry. "exocad is undoubtedly an indispensable tool," he said. "As optical scanners become more widespread, the need for exocad's diverse modules will become clear."

For Dt Tsuji, the path forward involves not just adopting new tools but embracing a new mindset — one where tradition and technology work hand in hand. With exocad at the heart of his workflow, he continues to push the boundaries of what is possible, while honouring the craftsmanship that defines Japanese dentistry. DA

** Currently available in the EU and US.*