

# digital



international magazine of digital dentistry



## interview

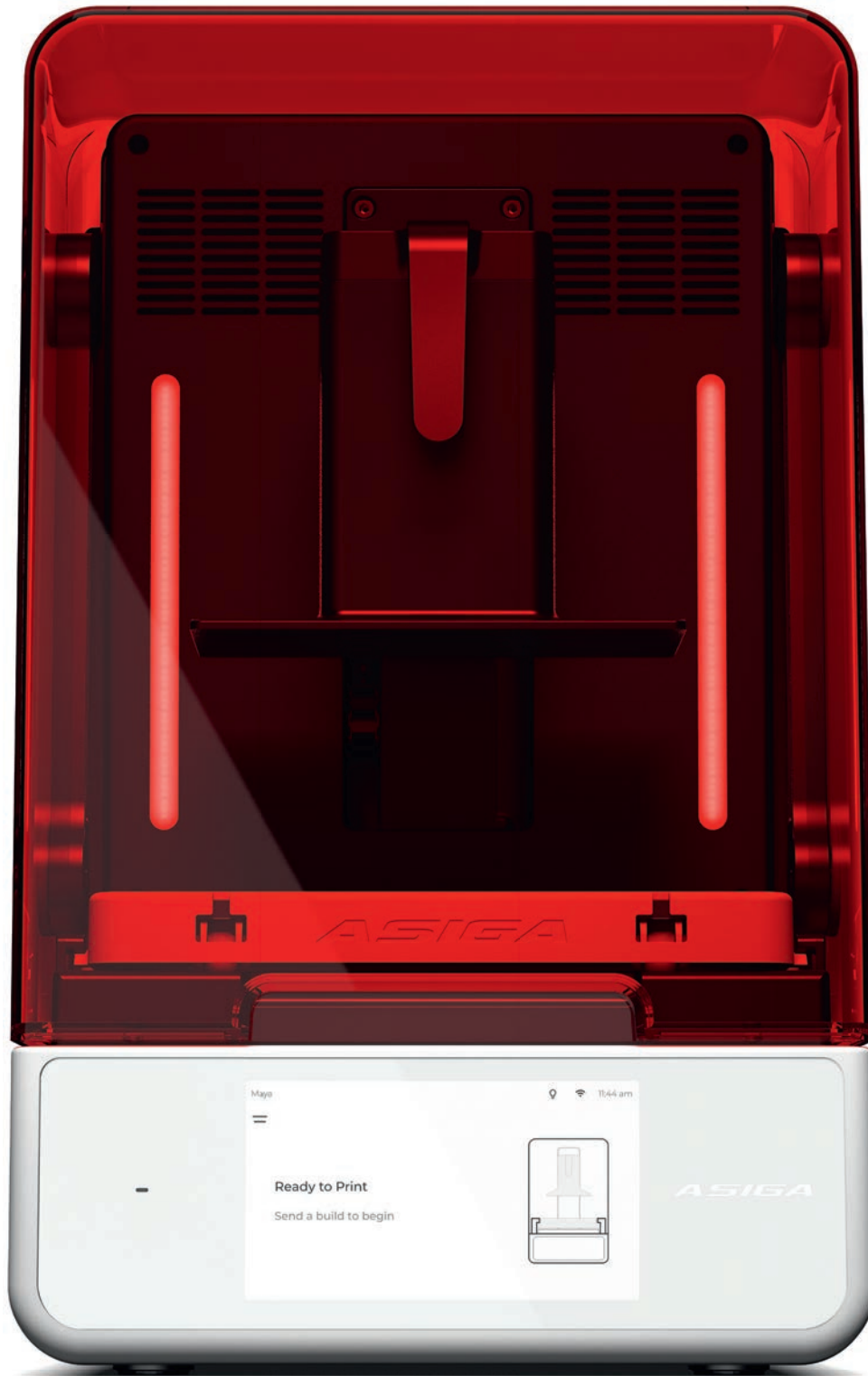
The future of digital dentistry

## opinion

Evaluating two newly launched intra-oral scanners against market favourites

## case report

The intersection of technology:  
Guided implant surgery and 3D printing



reddot winner 2024



# Hello Ultra!

3D printing made simple.

Explore the Ultra



asiga.com

**ASIGA**

Designed and manufactured in Australia.  
Copyright © Asiga Pty Ltd. All rights reserved. Specifications subject to change without notice. Asiga and the Asiga logo are registered trademarks.

Dr Scott D. Ganz

Editor-in-Chief



## Are we there yet?

**This is a common question** that arises when discussing advances in technology and whether we have arrived at a point where progress has stabilised and brought us to a satisfactory and stable state. It seems that no matter how fast our computer is, wait a week and there will be a faster version on the market. How about the recent advances in laptop computing power? Is 32 GB of RAM enough to make exocad fly, or do we need 64 GB or even 128 GB? There was a time when a mobile phone did not even have a camera, then there was one which took good low-resolution images and now the iPhone 15 Pro Max has an A17 Pro chip and a main camera that can capture images of up to 48 MP! Who would have guessed that our phones would be able take 4K video good enough for making movies? How much memory or storage capacity will we need to have to store not only all of the patient images we take but all of our family videos?

How about our intra-oral scanners? We love our scanners for their flexibility over conventional analogue impressions for crown and bridge or implant restorations. We were so happy to have the ability to digitise the mouth that speed was an afterthought, accuracy being the goal. Then, of course, we realised that time was money, so we pushed the limits to achieve scanning of an arch at record speed! Was that enough? Not while tethered with a cord! Many scanners have made the move away from the cord to a wireless solution and have not suffered a reduction in speed or accuracy.

One of the major catalysts for the acceptance and adoption of our digital workflows has been 3D printing. At first, we had to send our STL files to a large commercial 3D printer because 3D printers were too expensive for everyday clinicians to own. The bringing of 3D printers to the masses was a huge catalyst because we could now

have technology right in our private clinic, ready to print models for crown and bridgework or for surgical guides to facilitate implant placement. We could print a mandible for educational purposes or a full skull if the print platform was large enough. It was not long before the same problem of speed arose. Stereolithography was slow. Most printing happened over hours not minutes. The race for speed then became a focus for the marketplace, and printers became faster and faster without sacrificing accuracy. Part of the speed problem was not just the architecture of the printers but the resin utilised. New resins for crowns and dentures were introduced to the market. It was soon apparent that, if a laboratory was going to move to 3D printing, it would also need more than one printer, one for the crown and one for the model, which would be fabricated using another resin.

We can all agree that technology is wonderful, essential and helpful for our daily practice of dentistry. We can also agree that, if we blink, we may miss the latest innovations for devices and ancillary components of today's digital workflows. So, are we there yet? Our industry is on the path to integrating technology into most aspects of dental sciences, and while we might reach amazing milestones, we may never be satisfied with the current state of the art.

I am therefore personally pleased that we continue to march forward and excited that many of these advances will continue to be showcased within the pages of our publication, **digital**. Enjoy our current issue!

Respectfully,

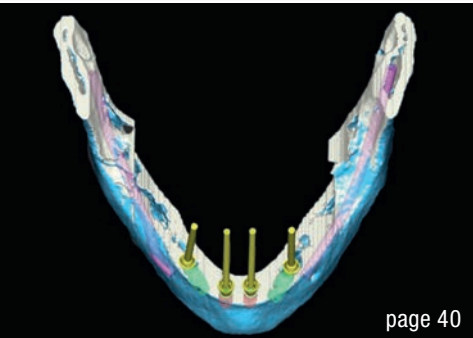
Dr Scott D. Ganz  
Editor-in-Chief



page 20



page 32



page 40

Cover image courtesy of  
n.tati.m/Shutterstock.com

Splash template courtesy of  
© gfx\_nazim – stock.adobe.com



**editorial**

Are **we there yet?** 03

**news**

**Asia is booming** and Europe is lagging behind 06

**Mixed trends** stir dentistry majors 08

**industry news**

Making implantology **simple** with the MIS **digital workflow** 12

Amann Girbach **announces Ceramill update** featuring new functions, greater capabilities 14

ClearCorrect launches **new digital solutions** globally 16

**Ivoclar and SprintRay** launch collaborative **partnership** 18

**trends & applications**

The future of **artificial intelligence** in the **dental landscape** 20

**interview**

**The future** of digital dentistry 22

An interview with Dr Miguel Stanley

**Advancing technologies** in ceramic implantology—**AI** sets new milestones in dental treatment 28

An interview with Dr Shepard DeLong

**opinion**

**Evaluating** two newly launched **intra-oral scanners** against market favourites 32

**case report**

**The intersection of technology:** Guided implant surgery and 3D printing 36

**Digital technology** for full-arch implant prostheses 40

**Screw-retained** solution for terminal dentition 44

**manufacturer news** 52

**meetings**

ITI World Symposium 2024 **attracted more than 5,000 attendees** 54

**International** events 56

**about the publisher**

submission guidelines 57

international imprint 58



# ClearPilot™ empowers you with increased control and accuracy.

## What's New in ClearPilot?

ClearPilot 8.0 empowers you with more control and better experiences, including advanced editing tools like Bite Jump Editing, Tilt/Cant positioning, Multiple IPR Editing, and UX/UI Improvements.



To become a partner  
or learn more,  
visit [clearcorrect.com](https://clearcorrect.com)

**clearcorrect**  
A Straumann Group Brand

# Asia is booming and Europe is lagging behind

Dr Björn Kempe, Singapore

Asia's trade show industry is experiencing robust growth, IDEM Singapore serving as a prime illustration of this internal dynamic. While stalwart events like the International Dental Show (IDS) are maintaining stability, IDEM Singapore has witnessed remarkable expansion, drawing a significant influx of new exhibitors, thus highlighting a disparity in growth rates between established shows and those in the Association of Southeast Asian Nations (ASEAN) region. Companies from Europe, the US, South America, South Korea and, notably, China are seizing this opportunity.

ASEAN presents fertile ground for business across various industries, and healthcare is experiencing particularly vigorous growth. Constituting approximately 200,000 dentists serving over 650 million citizens, ASEAN's dental care workforce is poised to potentially triple within the next decade. This trend underscores the appeal of IDEM Singapore, which not only showcases the latest developments but also convenes the entire industry and value chain.

This year and in 2025, Singapore is set to host more healthcare- and medical-related shows. UK-based conference and exhibition expert CloserStill Media, for example, is organising digital healthcare shows, and the Digital Dentistry Show (DDS), premiering in Berlin in Germany this June, is to be expanded to Singapore next year. Heralded as a groundbreaking event concept, DDS is poised to emerge as the premier gathering for the modern dental industry.

The proliferation of smaller, niche-oriented shows in the region signifies ASEAN's burgeoning specialisation in specific industries. Whereas large horizontal exhibitions in Europe once monopolised global attention, now more international exhibitors are eyeing ASEAN, the Middle East and the US as markets of interest. While China and Europe stabilise, ASEAN's sustained gross domestic product growth and relatively low inflation are drawing increased attention from international enterprises.

Singapore, positioning itself as an ASEAN—if not Asian—hub, has attracted a substantial influx of foreign investment

and new corporate entrants establishing regional headquarters. Having prowess in the meetings, incentives, conferences and exhibitions (MICE) industry, particularly in the business-to-business arena, Singapore offers an unparalleled environment for trade and networking, complemented by exceptional entertainment options. Moreover, the city-state fosters an ecosystem supportive of start-ups, particularly those with a focus on environmental technologies, service industries, banking and Industry 4.0 technologies.

The array of dental products being showcased at IDEM Singapore reflects Singapore's status as a hub for dental services, solutions and cutting-edge technologies across various specialist segments. While physical instruments may wane in prominence, digital tools augmented by artificial intelligence herald the future trajectory of the industry.

Meanwhile, Europe faces the imperative to swiftly bridge the gap in the rapidly expanding global MICE markets and cultivate an ecosystem conducive to showcasing modern innovations and technologies. Encouragingly, Europe is witnessing growing trends in start-up creation and intensified scientific endeavours, setting the stage for it to reclaim global leadership. I anticipate IDS 2025 and DDS to serve as potent catalysts for growth in the dental industry, redirecting focus towards the European market. Ultimately, market dynamics will dictate where buyers converge and where business flourishes.

## about



**Dr Björn Kempe** is the founder and CEO of Expos Asia, which is part of the EXPOS Global network, headquartered in Singapore. His consulting firm specialises in mergers and acquisitions, capital raising, investments, business development consulting and strategy consulting. Expos Asia also organises its own events in China and Indonesia.

---

## OmniTaper EV™ Implant

# Intuitive.



Simplify your approach to implant cases with the turnkey system that delivers confidence across clinical needs. The OmniTaper EV™ Implant features scientifically proven innovations like OsseoSpeed® surface to maintain marginal bone levels<sup>1</sup>, and the EV connection, an interface that works across the EV Implant Family for efficiency without the guesswork.

Rely on implant performance that complements how you practice.

Advance with confidence with the OmniTaper EV™ Implant and our full EV Implant Family at [www.dentsplysirona.com](http://www.dentsplysirona.com).  
Part of the Implants Signature Workflows powered by DS Core™.

<sup>1</sup> Norton MR, Astrom M. The influence of implant surface on maintenance of marginal bone levels for three premium implant brands: A systematic review and meta-analysis. Int J Oral Maxillofac Implants 2020;35(6):1099-111





# Mixed trends stir dentistry majors

Jeremy Booth, Dental Tribune International

**The first quarter of 2024** has yielded mixed results for dental companies. Leading dental laser provider BIOLASE experienced a 22% drop in its US laser revenue, and global distributor Henry Schein reported a decrease in sales of dental consumables in North America. Meanwhile, Dentsply Sirona increased its business in China by 53%, and Align Technology announced a record shipment in the coveted teens clear aligner category. The following report looks at how the largest manufacturers fared during the period amid restraint from clinicians, patients and dental support organisations (DSOs).

## Dentsply Sirona takes a cautious stance

First-quarter net sales of US\$953.0 million (€882.8 million\*) at Dentsply Sirona represented a year-on-year decline of

2.6 and 1.9% negative organic growth—for which currency fluctuations and other non-sales-related factors are excluded. Sales increased by 1.5% in the US and declined by 5.2 and 4.4% in Europe and the company's remaining markets, respectively.

Looking at its segmented results, Dentsply Sirona recorded global year-on-year sales declines of 6.9% for its connected technology solutions segment and of 5.9% for its essential dental solutions segment. Sales increases of 4.4 and 5.4% were posted for its orthodontic and implant solutions segment and its Wellspect Healthcare business, respectively.

Simon Champion, CEO of Dentsply Sirona, told analysts that organic sales were mostly flat during the period,



except in Germany, where survey results showed that procedure utilisation and dentist outlook had improved. Sharing more of the company's market intelligence, Campion said that dentists in Australia continued to exhibit some negative sentiment about market conditions, that patient volumes had declined in Japan and were stable in China and that Canadian patients seemed to have delayed treatment during the period, owing to the phased roll-out of the country's new dental plan.

"We are taking a cautious stance here with the macro uncertainties that continue to impact parts of our business, most notably imaging," Campion said.

Glenn Coleman, Dentsply Sirona's chief financial officer (CFO), alerted investors to the company's first-quarter highlights—53% sales growth in China, a 14% increase in global clear aligner sales and 9% growth in CAD/CAM—all of which were offset by declines in sales of imaging equipment. Global sales of SureSmile clear aligners increased by 9% and the company's direct-to-consumer aligner, Byte, grew by 18%, bucking a negative trend in the demand for at-home aligner systems.

### Align Technology ships more teen cases than ever before

The maker of Invisalign had the first quarter it needed after a run of disappointing results in 2023. Sales at the company reached US\$997.4 million, a 5.8% year-on-year increase. Clear aligner revenues, at US\$817.3 million, were up by 3.5%, and those from imaging systems and CAD/CAM services increased by 17.5% to reach US\$180.2 million.

First-quarter shipments of clear aligners increased by 2.4% year on year to reach 605,060. At 199,200, Align's teen shipments were up by 5.8% and greater than in any quarter previously.

CEO Joseph Hogan told investors that Align had achieved a number of milestones during the period, such as the acquisition of Cubicure, a leader in direct 3D-printing solutions, which Align hopes will revolutionise its production process. The company also launched the Invisalign palatal expander system in the US and Canada, and Hogan said that it was one of the most significant innovations in the company's 27-year history.

### Straumann Group posts 15% organic growth

Yang Xu, CFO of Straumann Group, told analysts in the company's earnings call that the multinational had had a "solid quarter". Sales of CHF643.8 million (€660.8 million\*) represented year-on-year growth of 8.1%, or 15.1% on an organic basis.

**"We still see headwinds in the doctor-led direct-to-consumer [clear aligner] business."—  
Guillaume Daniellot, CEO,  
Straumann Group**

Straumann had minor year-on-year revenue declines in the Europe, Middle East and Africa (EMEA) and the North America regions, where sales decreased by 0.9 and 2.3%, respectively. However, all regions returned organic sales increases: 5.2% in EMEA, 3.7% in North America and 11.5% in Latin America. Straumann banked CHF130.8 million from sales in the Asia Pacific region, representing a 63.7% increase in revenue and an 82.0% increase in organic sales. This strong year-on-year growth is partly due to the company's comparatively weak performance in the region in the first quarter of 2023.

Guillaume Daniellot, CEO at Straumann, remarked that the company's performance in China had been a highlight of the quarter. He said that Straumann's business in the burgeoning dental market continues to grow, having gained momentum last year, when the company doubled its implant shipments compared with 2022.

EMEA remains Straumann's largest market, and regional sales to clinicians of the ClearCorrect aligner brand increased by double digits during the period. ClearCorrect performed well in the North America and the Asia Pacific regions, contributing to strong orthodontic sales in established markets such as the US, Australia and Japan and in emerging markets such as Vietnam and India.

"On the challenging side, we still see headwinds in the doctor-led direct-to-consumer business, namely DrSmile," Daniellot said, citing persisting macroeconomic challenges among consumers. He said that Straumann had shifted from paid marketing to organic demand generation for DrSmile and had achieved 3.7% growth in North America, despite a "softening market".

### Envista says patients will prioritise dental care

In Amir Aghdai's last earnings call as Envista CEO, and his successor's first, the outgoing chief said that the quarter had proved challenging and resulted in modest