

CAD/CAM

international magazine of dental laboratories

study


3D fabrication workflow

case report

Digitally planned
highly aesthetic restorations

interview

Digital workflow for dental offices
and laboratories—where are we now?



Anatomically shaped , individualised PEEK gingiva formers and impression posts

Do you want to reduce patient times and increase patient comfort?

The individual PEEK gingiva formers and impression posts support a convenient patient-oriented workflow. The anatomically designed emergence profile offers aesthetic and functional advantages in immediate implantations, with the preservation of the surrounding hard and soft tissues.

Features

- Patient-specific emergence profile
- Made of biocompatible PEEK
- Can be ordered individually or from the same dataset as a “gingiva former + impression post set”



camlog.com/en/products/cadcam

The individual DEDICAM PEEK gingiva formers and impression posts are offered for the CAMLOG®, CONELOG®, iSy®, CERALOG® and BioHorizons® implant systems. Only open impression posts can be ordered for BioHorizons®. DEDICAM® services are not available in all countries. Please ask your local Camlog / BioHorizons® representative if you have access to our CAD/CAM services.

DEDICAM®, CAMLOG®, CONELOG®, iSy® and CERALOG® are registered trademarks of CAMLOG Biotechnologies GmbH. BioHorizons is a registered trademark of BioHorizons. All rights reserved. Not all products are available in all countries.

Magda Wojtkiewicz

Managing Editor



CAD/CAM in dentistry— the present and the future

CAD/CAM technology has been used in dentistry since the 1970s and over the years has gained popularity and the confidence of dental professionals as well as patients. Dental restorations made with CAD/CAM are durable, precise and highly aesthetic, because of the significant improvements in the technology and materials. It is still quite expensive technology, but is becoming increasingly affordable for both dental professionals and patients owing to the rapid development of this segment of the dental industry.

The use of CAD/CAM was widely presented during the 2023 International Dental Show (IDS), where two topics stood out: completely digital workflows and sustainability. Whether in the laboratory or in the dental office, CAD/CAM—which includes the rapidly developing 3D-printing technologies—plays an important role in the digital workflow, ensuring fast, safe and precise production of restorations of all kinds, as well as surgical guides. The innovations presented at IDS showed that the greatest advances in CAD/CAM are in software, chair-side devices and materials with high physical and aesthetic properties.

Although interest in CAD/CAM continues to grow, undergraduate education on CAD/CAM has not kept pace. The majority of currently practising clinicians did not receive any formal education on this topic and gained their knowledge through postgraduate educational programmes. However, the importance of integration of

CAD/CAM into dental schools' curricula has been recognised and the number of universities offering CAD/CAM education is thus increasing.

One of the pioneers among dental schools incorporating CAD/CAM into its undergraduate curriculum was the College of Dentistry at the University of Tennessee Health Science Center in the US. The school invested in a CEREC 3 unit already in 2001—having tested five CEREC 2 units the summer before—and students can experience at first hand the potential of this digital technology. The college was followed by others, among them Heidelberg University Hospital in Germany, Queen Mary University of London in the UK and RMIT University in Australia. These are only a few examples of those already offering courses centred on dental CAD/CAM technologies.

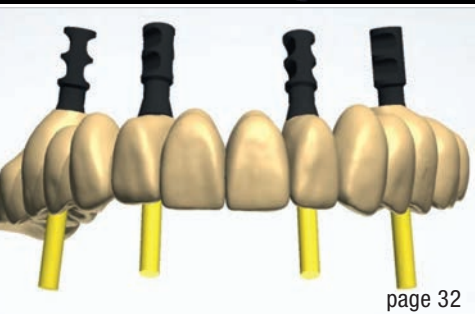
It is clear that the integration of CAD/CAM into dental school curricula throughout the world is increasing, but the level of access to such technology is not guaranteed everywhere. It is hoped that today's dental students, who are already well acquainted with digital technologies and using computers every day by the time they reach university, have an increased affinity for the incorporation of CAD/CAM into their learning experiences.

Sincerely,

Magda Wojtkiewicz
Managing Editor



page 18



page 32



page 48

Cover image courtesy of
Microgen/Shutterstock.com



editorial

CAD/CAM in dentistry—the present and the future

Magda Wojtkiewicz

03

news

IDS is back: 120,000 attend centenary of the world's leading dental show

06

Academic review of **CAD/CAM** applications within dentistry

10

industry news

“The edelweiss CAD/CAM BLOCK certainly created a buzz”

12

Franziska Beier

Amann Girrbach offers **complete digital workflow**

14

Jeremy Booth

ClearCorrect expands into international markets
and new manufacturing lines

15

study

3D fabrication workflow

16

Dr Les Kalman

case report

Digitally planned highly aesthetic restorations

18

Atsushi Hasegawa & Dr Yusuke Takayama

Guided maxillary arch implant restoration: Language and
cross-border collaboration are no barrier with **hybrid workflow**

24

Dr Florian Obădan & Jorge Reyes Minguillán

A clinical case report on **maxillary compromised dentition**
treated with Straumann Pro Arch in a **digital workflow**

32

Dr Tran Thanh Phong

industry report

Individual PEEK healing abutments and impression copings

38

CAMLOG Biotechnologies

interview

Realising optimal integration of **function and aesthetics**

42

An interview with Dr Marco Tudts

Digital workflow for dental offices and laboratories—
where are we now?

44

An interview with Niels Plate

Successful use of KATANA Zirconia Block in single-visit dentistry

48

An interview with Dr Karim Nasr

manufacturer news

51

meetings

Implant Solutions **World Summit 2023**

54

International events

56

about the publisher

submission guidelines

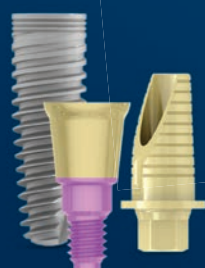
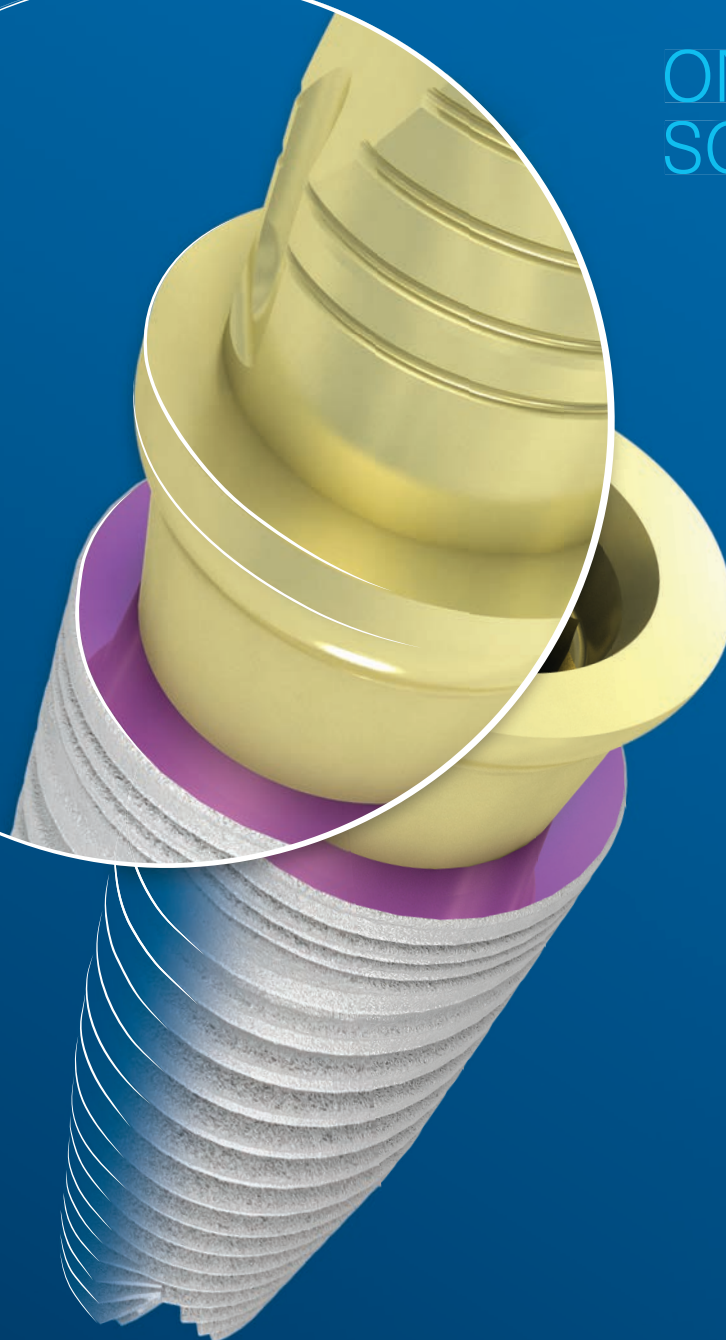
57

international imprint

58



ONE-TIME
SOLUTION



MIS[®]
CONNECT

TISSUE-LEVEL SCREW-RETAINED SYSTEM MAKE IT SIMPLE

The MIS CONNECT is a stay-in abutment system which enables avoiding interference with the peri-implant gingival seal. It offers doctors the ability to maximize the tissue-level restoration concept, enabling the entire prosthetic procedure and restoration to occur far from the bone, and at any level of the connective tissue. Learn more about MIS at: www.mis-implants.com

IDS is back: 120,000 attend centenary of the world's leading dental show

By Dental Tribune International



The International Dental Show (IDS), which celebrated its 100th anniversary this year, provided the perfect opportunity for thousands of companies to showcase their latest product releases to an interested audience of dental professionals. According to organiser Koelnmesse, 120,000 visitors from 162 countries attended, 60% of them coming from abroad. In total, 1,788 companies

from 60 countries exhibited at the show, including over 1,300 from abroad.

Mark Stephen Pace, chairman of the executive board of the Association of the German Dental Industry, commented: "IDS 2023 was a success across the board and, at the same time, it proved that even after 100 years it is still reinventing itself and developing further. IDS has once again confirmed that it is a world leading trade fair. The quality of the visitors was sensational. Together with Koelnmesse, we will successfully lead IDS into the second century of the event's history with energy, ambition, creativity and vision. This year's claim '100 years IDS—shaping the dental future' reflects the outstanding importance of the trade fair today and in the future."

Chief Operating Officer of Koelnmesse Oliver Frese added: "Over five days, we experienced an IDS that more than lived up to its claim as a leading international hub. This gives the global dental industry the necessary impetus for the coming months and, at the same time, underlines the global appeal that emanates from the IDS. The result of the event is all the more remarkable as the geopolitical framework conditions are currently a challenge." Two topics stood out at this year's IDS: complete digital workflows and sustainability. Furthermore, a consider-





able number of companies showcased artificial intelligence applications.

The overall feedback from the exhibitors was very positive. Fred Freedman, vice president of member services at Dental Trade Alliance and president of International Dental Manufacturers, stated: "IDS is the largest and best international dental meeting in the world. The 2023 IDS can be summed up in one sound bite: IDS is back. With the enormous crowds and thousands of international distributors and visitors, this is a must for all US manufacturers and companies looking for new international business."

Simon Campion, president and CEO of Dentsply Sirona, concluded: "It was important for us as a company to be back on-site and meet our customers in person because that makes a difference. Under the motto 'United for better dentistry', we offered our visitors a programme with 40 hours of live demonstrations and hands-on training. In addition, we made clear statements on the topics of digitalisation and sustainability with our panel discussions. We can positively impact the lives of millions of patients. We can only do this through mutual exchange and closer collaboration."

(All images © Koelnmesse)





More at once



Gain the power
of dual model
scanning



Minimize hands-on time with
the intuitive place-and-scan design.
Provide a complete range of quality
services to your clinics with ease.
Stay on top of your caseload with
fast automated scan-to-design
workflows. More efficiency.
More versatility. More speed.

www.3shape.com/f8

3shape 