

CAD/CAM

international magazine of dental laboratories

case report

A chairside CAD/CAM lithium disilicate block in the hands of the dental technician

opinion

Both digital and analogue dental workflows need to be your best friend!

industry report

Transforming dentistry with groundbreaking technologies



The perfect pairing.



Initial™ LiSi Block
and G-CEM ONE™

GC

GC EUROPE N.V.

info.gce@gc.dental

<https://europe.gc.dental/en-GB>

Magda Wojtkiewicz

Managing Editor



Importance of effective communication

According to the *Oxford English Dictionary*, communication is “the transmission or exchange of information, knowledge, or ideas, by means of speech, writing, mechanical or electronic media from one place, person or group to another”. This seems simple, but the process of transmitting of a message can be complex, being affected by many things. These include emotions, the cultural situation, the medium used to communicate and even the location of the sender or receiver of the message.

Many of us believe that communication is instinctive and easy. If so, why does our message so often go astray when we try to communicate with others? Why can we say one thing and yet the other person hears something else? Where does this miscommunication come from? Aside from language issues, miscommunication can be caused by stress, lack of control of emotions, poor or misplaced focus in communicating, and inconsistent or negative body language, among many other factors. Ability to combat your emotions quickly and return to a calm state significantly improves communication skills. Only when we are calm can we remain focused and be able to judge what sort of response the situation requires, including whether it is better to remain silent.

Besides affecting the process of transmitting information, underlying and situational stress and emotions can cause us to focus only what we want to say; however, communicating with others is less about talking ourselves and more about listening to others. There is a huge difference between engaged listening and simply hearing. Listening to others means more than under-

standing the words being communicated. As you listen carefully and engage with what is being said, you will hear subtle intonations in the speaker's voice that tell you how that person is feeling and what emotions he or she is trying to convey. Understanding non-verbal communication can also help you connect with others, because the way someone looks, listens, moves and responds to another person says more about how he or she feels than words.

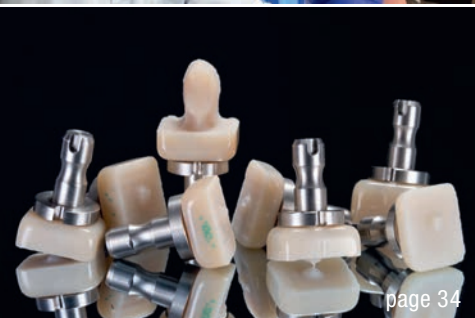
Regardless of the type and mode of communication or the communication participants (patient communication, in-office/team communication, communication between the dentist and the dental laboratory), effective transmission of information (whether through speech, writing or electronically) is critical to obtain a successful treatment outcome. In the digitalised world we live in, transmission of information seems easier than ever, because it often takes only one click to send, forward or receive a message. However, the importance of non-verbal communication should not be under-estimated. Direct expression of thoughts or needs makes communication clear, but it is only effective if combined with engaged listening and skilful reading of emotions, leading to the expected results. Effective communication is always about understanding the other person, not winning an argument or imposing your opinions on others, whether at home or in the workplace.

Sincerely,

Magda Wojtkiewicz
Managing Editor



page 16



page 34



page 38

Cover image courtesy of
Yalcin Sonat/Shutterstock.com



editorial

Importance of effective **communication**

03

news

Preferences for fixed restorations and resulting impact on the US and European **overdenture markets**

06

Global healthcare systems unprepared for another pandemic, research shows

10

Artificial intelligence may automate design of biomimetic single-tooth prostheses

12

opinion

Dental Thermal App offers “a simple, yet intuitive, clinically based workflow”

14

Both digital and analogue dental workflows need to be your best friend!

16

patient communication

Help your patients **say yes!**

18

case report

Complete **rehabilitation with guided surgery:** Focus on **temporary restoration**

21

Digital procedures for the design of a sequential occlusion in a complex clinical case

24

A chairside CAD/CAM lithium disilicate block in the hands of the dental technician: **Giving that extra touch**

34

industry report

Transforming dentistry with groundbreaking technologies

38

interview

“Dentsply Sirona World provides a window into the future of dentistry, which is digital”

42

trends & applications

How **3D printing increases value** for your patients

46

Traditional subtractive methods required outrageous sums of money

50

manufacturer news

52

features

Building a **sustainable dental practice**

58

meetings

In-person IDEM 2022 provided forum for robust **exchange of ideas**

60

Exhibitors stack up for **IDS's centennial event in 2023**

62

International events

64

about the publisher

submission guidelines

65

international imprint

66

Stay up to speed with **Generation Red** E scanners

3Shape E1, E2 and E3 scanners have been upgraded to the same next generation scanning platform as E4 to deliver 20% more speed than before. Designed with a signature red ring, Generation Red E scanners provide optimized productivity, at no extra cost. Explore more at www.3shape.com/en/scanners/lab/generation-red

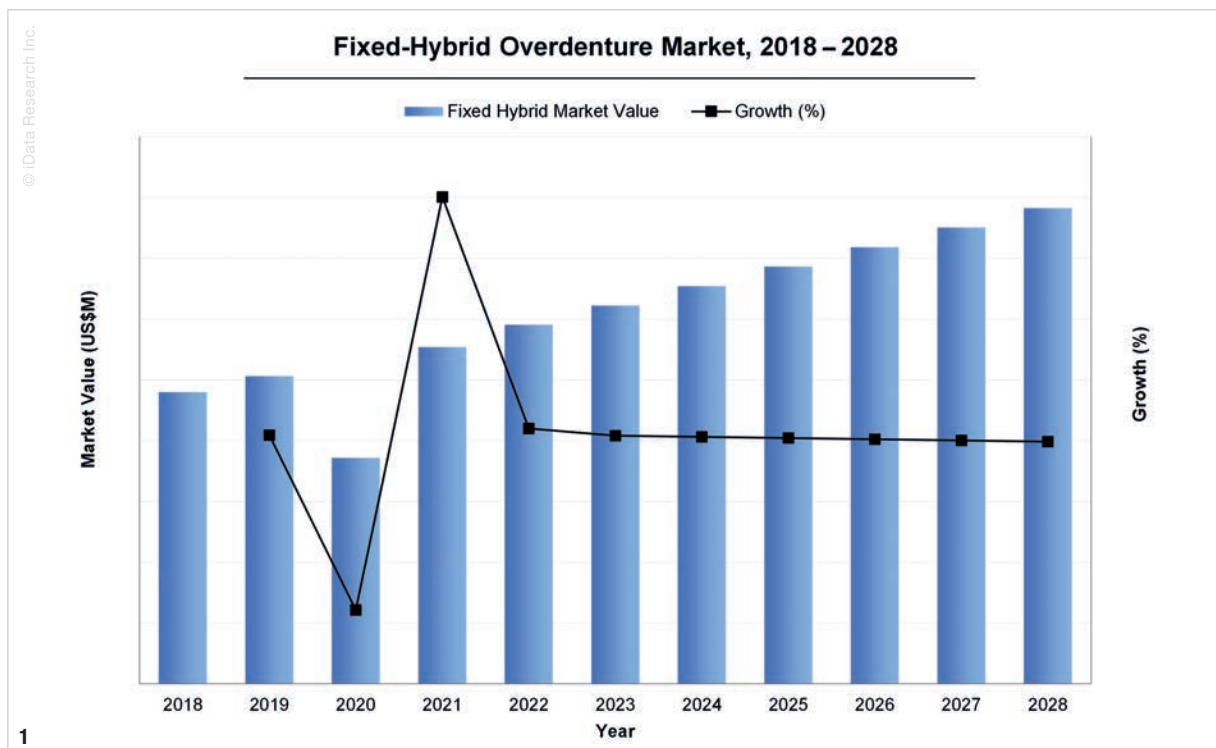


20% faster,
same great price!

Contact your reseller regarding availability of 3Shape products in your region.

Preferences for fixed restorations and resulting impact on the US and European overdenture markets

Daniel Sussman and Dr Kamran Zamanian, Canada



In recent years, patient preferences for fixed restorations have driven significant growth in both the US and European fixed-hybrid overdenture markets. This trend is particularly pronounced in the US, where patient awareness has also been a significant factor in recent years. Though it was slowed momentarily by the COVID-19 pandemic, this market has made a full recovery and is set to experience single-digit growth moving forward.

Fixed-hybrid overdentures are full-arch restorations that use an implant bar into which the dentist screws the denture prosthesis and, therefore, they cannot be removed by the patient. This makes them similar to natural teeth and eliminates much of the hassle of regular maintenance. As a result, the proportion of patients seeking a fixed-hybrid restoration has soared across the US and Europe despite their premium price tag. During the pandemic, there has been a rise in demand for more affordable

options such as implant-supported overdentures, but the fixed-hybrid overdenture market has now recovered and, as can be seen in Figure 1, is set to grow steadily in the coming years.

Fixed attachments gaining ground

The growth of the fixed-hybrid overdenture market as well as that of the total overdenture market has had a positive impact on both implant bar and attachment markets. In 2016, Zest Dental Solutions launched its Locator F-Tx fixed attachment system. This system operates as an alternative to screws and cement, and has created significant value in the attachment market. Zest's fixed attachment system has experienced significant growth, as the system has been used to secure an increasing number of fixed-hybrid overdentures. Whereas Zest Dental Solutions' Locator F-Tx currently dominates the fixed attachment

Digital Solutions for professional dental laboratories and DSOs

Next generation 3D printing



SPEED



AUTOMATION



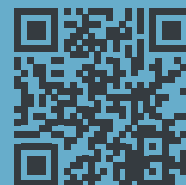
PRODUCTIVITY



FLEXIBILITY

Discover the benefits of 3D printing to produce dental models, crowns and bridges, splints and surgical guides with the benefits of automated print separation and resin refill systems to help automate your business.

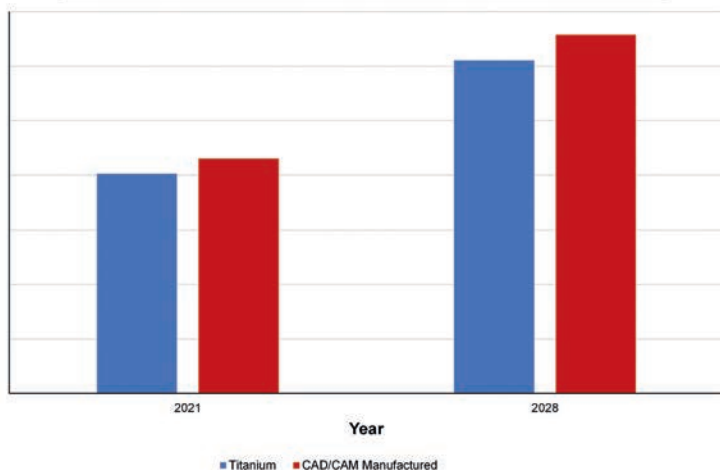
Contact your local Straumann representative now or scan the QR-Code



A0004/en/B/00-CAD 09/22

Titanium and CAD/CAM Manufactured Implant Bars, 2021 – 2028

Units Sold



market, other minor competitors exist, such as the Smileloc system. Naturally, the fixed attachment market not only benefits from a steadily increasing rate of adoption but also from being tied to the fastest growing segment within the overdenture market.

A shifting landscape for the implant bar market

Like the attachment market, the implant bar market is also undergoing substantial changes that will affect it in both the short and long term. The first such change relates to the market's competitive landscape. The implant bar market can be broken down into implant bars manufactured by dental laboratories and those manufactured in independent milling facilities. Traditionally, there was a near-even split between dental laboratories and milling facilities in the US; however, dental laboratories command a significantly higher share of the market in Europe, particularly in Italy, Spain and Portugal. Recently, the growing use of CAD/CAM technology has increased efficiency in the milling process and decreased the cost. Hence, smaller dental laboratories are now able to produce their own implant bars inexpensively, substantially increasing their share of the implant bar market.

The competition between milling facilities and dental laboratories, in addition to the increased efficiency and cost savings of CAD/CAM technology, have combined to place downward pressure on implant bar prices across the US and Europe. As CAD/CAM technology becomes more accessible, an increasing number of dental laboratories have begun in-house manufacturing of implant bars. The increased efficiency of this process has caused the cost per implant bar to decrease. Whereas dental laboratories and CAD/CAM milling facilities are interested in maintaining their profit margins, reduced costs present an opportunity to capture greater market share. As a result, the price of implant bars has been decreasing while the use of CAD/CAM technology increases. This is expected to reach a plateau as the implant bar market becomes saturated with CAD/CAM milling. These price reductions also have an impact on the pricing of splinted

overdentures such as fixed-hybrid overdentures and removable implant bar overdentures, since the implant bar is a key component of these overdentures.

Another current trend within the implant bar market regards the materials being used in their fabrication. Implant bars in both the US and Europe are primarily fabricated with titanium, cobalt chromium or, occasionally, gold. In the US, the use of titanium has been most popular whereas in Europe, cobalt is used more often. Both titanium and cobalt chromium have benefits. Cobalt has been used in dentistry for decades and is a very strong, biocompatible material with high corrosion resistance. Titanium is also a very strong and corrosion-resistant material. Where titanium distinguishes itself, however, is through its lightweight nature, elasticity and superior biocompatibility. In the implant bar market, titanium has been gaining considerable popularity, mostly owing to its biocompatibility. Germany, Scandinavia, Austria, Switzerland and the Benelux region have paved the way in the use of titanium in Europe. Cobalt chromium still commands a significant unit share of the implant bar market in France, the UK, Italy, Spain and Portugal, but titanium is expected to become the dominant implant bar material in these countries over the next decade (Fig. 2).

Closing thoughts

In summary, shifting patient preferences towards fixed-restorations and the widespread adoption of CAD/CAM technology has led to significant changes in the overdenture market. Whereas the future may be uncertain, iData Research forecasts indicate that this market is expected to experience substantial growth over the next five to ten years across Europe and the US. This will be spearheaded by remarkable growth within the fixed-hybrid overdenture, implant bar and fixed attachment markets.

about



Daniel Sussman is a research analyst at iData Research. He develops, writes and models syndicated and custom research projects for various medical device industries. To date, he has published the company's European gastrointestinal endoscopic devices report as well as its US and European dental overdentures series.



Dr Kamran Zamanian is CEO and founding partner of iData Research. He has spent over 20 years working in the market research industry with a dedication to the study of dental implants, dental bone grafting substitutes, prosthetics, as well as other dental devices used in the health of patients all over the globe.

Things you should not shake!



V-PRINT PRINTING MATERIALS: ALWAYS OPTIMALLY HOMOGENEOUS

- **No need to be shaken** – you define the timing of your workflow
- **Efficient** – save time and costs for homogenisation devices, print safely – even overnight!
- **Reproducible** – product properties are reliably achieved, again and again



V-Print

