European Association of Dental Implantologists
Bundesverband der implantologisch tätigen Zahnärzte in Europa e.V.

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EDI JOURNAL

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DIGITAL WORKFLOW

in the implantological practice

EDI News | The 21st European Consensus Conference (EuCC) of the BDIZ EDI updates practical guide to the digital workflow | The 19th BDIZ EDI Europe Symposium in Athens | The International exchange of professionals—interdisciplinary event 2026 | **Law** | Medical Device Regulation 2.0 | **Case Studies** | Digital workflow for immediate maxillary full-arch implant reconstruction | Metal-free rehabilitation of the posterior mandible using ceramic implants |

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Between aspiration and reality

With the Medical Devices Regulation (MDR), the European Union wanted to send a strong signal: greater patient safety, greater transparency, greater oversight. A noble goal that no one in the industry would question. Yet a gap has opened up between political aspirations and practical implementation, one that is becoming ever wider for manufacturers, hospitals, doctors and dentists, and ultimately for patients as well.

Since it came into force, the MDR has revealed a downside that was long underestimated in Brussels. The costs of recertification are rising massively, the documentation requirements are growing beyond measure, and the administrative burden is tying up resources that should actually be channelled into research, development and patient care. The situation is particularly dire for notified bodies: too few, too slow, too overburdened. Even established products that have been in safe use for decades must undergo lengthy procedures once again—a process that is not only expensive but also risky.

For when certificates expire, products disappear from the market. And that is exactly what is already happening. The MDR is leading to a paradoxical situation: it is precisely those medical devices that have been functioning reliably for years that are no longer being manufactured because recertification is no longer economically viable.

For large corporations, this is annoying but manageable. For medium-sized manufacturers—the backbone of the European medtech sector—this poses an existential threat. Many of them face the choice of scaling back their product range, postponing innovation, or leaving the European market altogether. Some have already done so. As a result, Europe risks losing the innovative strength that has made it a global pioneer for decades.

The MDR was intended to build trust. Yet it threatens to achieve the opposite: start-ups are being put off by the regulatory complexity, medium-sized companies are struggling to survive, and hospitals are reporting supply shortages. Innovation does not flourish within the straitjacket of excessive bureaucracy, but in an environment that enables both safety and progress in equal measure. It is precisely this balance that has been thrown off course. The European Commission has now recognised that the MDR, in its current form, is not fit for the future. The announced review is long overdue. In this issue, lawyers Ratajczak and Gassner analyse the current situation and the European Commission's proposals, which have been available since mid-December. "The European Commission is pulling—at least by the standards of Brussels bureaucracy—something of an emergency brake on the Medical Devices Regulation," reads the introduction to the article. The commission cites as its objectives the simplification of the regulations and the reduction of the administrative burden, as well as the improvement of the certification process, promote innovation and competitiveness within the EU medical device industry and ensure the availability of safe and innovative products.

But an evaluation alone is not enough. It must incorporate the views of manufacturers, notified bodies, hospitals and patients. The relevant bodies at EU level must have the courage to make structural changes, rather than merely tweaking individual parameters. The question is not whether we need regulation. The question is how much regulation an innovation-driven healthcare system can withstand without suffering damage. If Europe wishes to retain its role as a hub for medtech innovation, the MDR must be reformed—streamlined, accelerated and made fit for purpose. The evaluation offers an opportunity to do so.

Anita Wuttke
Editor-in-Chief

08

BDIZ EDI family: new membership cards and membership certificates 2026

21

Special moments—highlights from the 21st Expert Symposium

36

Ruling on Internet contracts: the customer has a special right to terminate the contract

EDI News

08 We are family
New membership cards and membership certificates 2026

10 A Strong concept with a clear message
The new trade fair booth with a strong visual statement

12 Digital implantology in transition
The 21st European Consensus Conference (EuCC) of the BDIZ EDI updates practical guide to the digital workflow

20 Special moments
Highlights from the 21st Expert Symposium in Cologne

22 Expert witness curriculum in implantology
Starting in 2026, in person and online

26 A visionary and astute observer of the dental industry
Obituary for Jürgen Isbaner

27 3 questions for Dr Erion Çerekja
Critical considerations for implant surgery in the aesthetic zone: precision, digital planning, and the pursuit of perfection

28 Impressions from Athens
The 19th BDIZ EDI Europe Symposium

30 A global medical mosaic in Athens
The international exchange of professionals—interdisciplinary event 2026

34 Europe Ticker

36 Customers have an extraordinary right of termination
ECJ ruling on amendments to internet contracts

38 Medical Device Regulation 2.0
The European Commission's proposed amendments—overview and assessment

44 Did you ever know…

45 A visionary thinker
Obituary for Myron "Ron" Nevins

46 Implant maintenance is a team effort
Implant care instructions brochure for patients

48 Qualification for experienced implantologists
Certification as an EDA Expert in Implantology

49 We want YOU!
BDIZ EDI and its multifaceted work

Case Studies

50 Digital workflow for immediate maxillary full-arch implant reconstruction
Integration of the 3P Concept and same day provisionalisation

58 Metal-free rehabilitation of the posterior mandible using ceramic implants

Business & Events

61 Pathways from complications to predictable success
Osstem Europe Meeting 2026 Prague

62 Gum Health Day 2026
EFP starts three-year international campaign

64 Vienna emerged as a hub for the future of oral regeneration
Looking back at the International Osteology Symposium Vienna 2026

67 Evidence and empathy as the focus in oral health professionals' education
ADEE Annual Meeting 2026

News and Views

03 Editorial

06 Partner Organizations of BDIZ EDI

07 Scientific Board/Imprint

68 Product Reports/Product Studies/Product News

70 Calendar of Events/Publisher's Corner

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1 Ratka C. et al. JCM. 2019;8(9):1397. 2 Bosshardt DD. et al. Clin Oral Invest. 2022;26(4):3735–3746. 3 Zipprich H. et al. Clin Oral Invest. 2022;26(6):4549–4558. 4 Schlee. et al. JCM. 2019;8(11):1909. 5 Schlee M. et al. JCM. 2021;10(16):3475. 6 Data on file, GalvoSurge AG.

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Partner Organizations of BDIZ EDI

Association of Dental Implantology UK (ADI UK)

ADI UK, founded in 1987, is a registered charity committed to improving the standards of implant dentistry by providing continuing education and ensuring scientific research. It is a membership-focused organisation dedicated to providing the dental profession with continuing education, and the public with a greater understanding of the benefits of dental implant treatment. Membership of the ADI is open to the whole dental team and industry, and offers a wealth of benefits, education and support for anyone wishing to start out or develop further in the field of dental implantology.

Ogolnopolskie Stowarzyszenie Implantologii Stomatologicznej (OSIS EDI)

OSIS EDI, founded in 1992, is a university-based organisation of Polish scientific implantological associations that joined forces to form OSIS. The mission of OSIS EDI is to increase implant patients' comfort and quality of life by promoting the state-of-the-art and high standards of treatment among dental professionals. OSIS EDI offers a postgraduate education in dental implantology leading to receiving a Certificate of Skills (Certy kat Umiejetnosci OSIS), which over 130 dental implantologists have already been awarded.

Sociedad Espanola de Implantes (SEI)

SEI is the oldest society for oral implantology in Europe. The pioneer work started in 1959 with great expectations. The concept of the founding fathers had been a bold one at the time, although a preliminary form of implantology had existed both in Spain and Italy for some time. Today, what was started by those visionaries has become a centrepiece of dentistry in Spain. SEI is the society of reference for all those who practice implantology in Spain and has been throughout the 50 years, during which the practice has been promoted and defended whereas many other societies had jumped on the bandwagon. In 2009 SEI celebrated its 50th anniversary and the board is still emphasizing the importance of cooperating with other recognised and renowned professional societies and associations throughout Europe.

Sociedade Portuguesa de Cirurgia Oral (SPCO)

The SPCO's first international activity was the foundation—together with their counterparts in France, Italy, Spain and Germany—of the European Federation of Oral Surgery (EFOOS) in 1999. The Sociedade Portuguesa de Cirurgia Oral's primary objective is the promotion of medical knowledge in the field of oral surgery and the training of its members.

Udruženje Stomatologa Implantologa Srbije-EDI (USSI EDI)

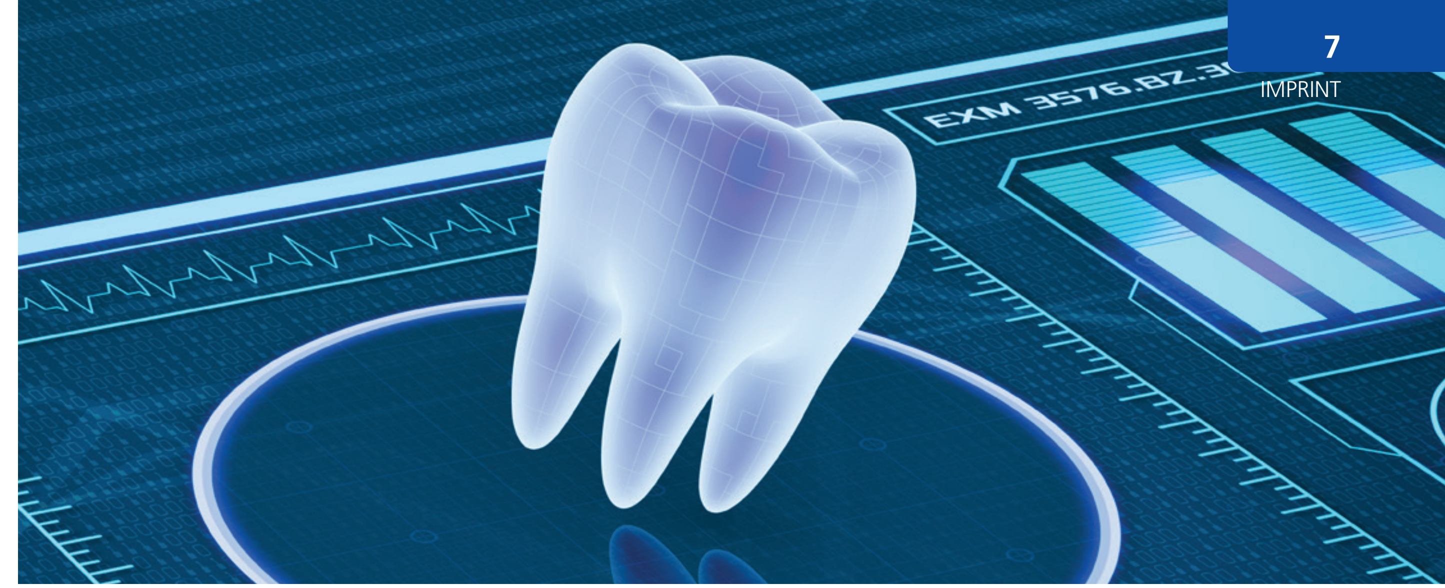
USSI EDI was founded in 2010 with the desire to enhance dentists' knowledge of dental implants, as well as to provide the highest quality of continuing education in dentistry. The most important aims of the organisation are to make postgraduate studies meeting the standards of the European Union available to dentists from Serbia and the region; to raise the level of education in the field of oral implantology; to develop forensic practice in implantology; and to cooperate with countries in the region striving to achieve similar goals.

EDI of Macedonia

The Association is Albanian Implantology Association of Macedonia—AIAM was founded in 2013 as a branch of Albanian Dental Society of Macedonia. The association was created to advance education in the field of dental implantology for the benefit of the population. The objectives of the association are:

- To promote the progress of education, research and development of dental implantology in Macedonia
- To encourage postgraduate education, study and research in dental implantology through:
  - Appointment of meetings, lectures, seminars and courses either individually or with others
  - Encouraging the publication of dental implantology articles!
  - To cooperate and make agreements with relevant, national, local, foreign and different institutions.

In 2017, AIAM & MAOS (Macedonian Association of Oral Surgeons) became EDI of Macedonia and signed a Cooperation Agreement with BDIZ EDI to cooperate in dental implantology!



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New membership cards and membership certificates 2026

We are family

In 2026, the BDIZ EDI will once again issue newly designed membership cards and membership certificates in the current corporate design to its members in order to visibly reflect the association's high standards of quality and to emphasise membership in one of the strongest implantology associations in Europe.

This update is part of the association's ongoing development. Today, the BDIZ EDI brings together more than 3,000 members in Germany and around 6,500 members throughout Europe.

A fresh design for a strong community

The new cards and certificates incorporate the modern BDIZ EDI corporate design, featuring clean lines, high-quality materials, and contemporary typography. The goal is to visually convey the professionalism and international orientation of the association.

The design is based on the core values of the BDIZ EDI: quality, transparency, continuing education, legal and billing expertise, and European networking.

More than a document: a sign of professional expertise

The BDIZ EDI stands for well-founded implantology education, practical support, and a strong professional-political voice. The new membership cards and certificates are intended to strengthen this identity and provide members with a visible symbol of their qualifications and association membership.

Membership means access to a wide range of knowledge, services, and continuing education opportunities, including the Implantology Curriculum, the billing hotline, the BDIZ EDI and analog fee tables, and numerous events such as the Expert Symposium in Cologne, the Europe Symposium, and billing webinars.

Practical benefits in everyday practice

The new membership card is durable, compact, and ideally suited for everyday use in dental practices—for example, as proof of membership for continuing education providers, cooperation partners, or within professional networks. The membership certificate, in turn, has been designed to be representative and is ideal for display in reception areas or treatment rooms. Members also have the option of presenting the BDIZ EDI logo on their practice website.

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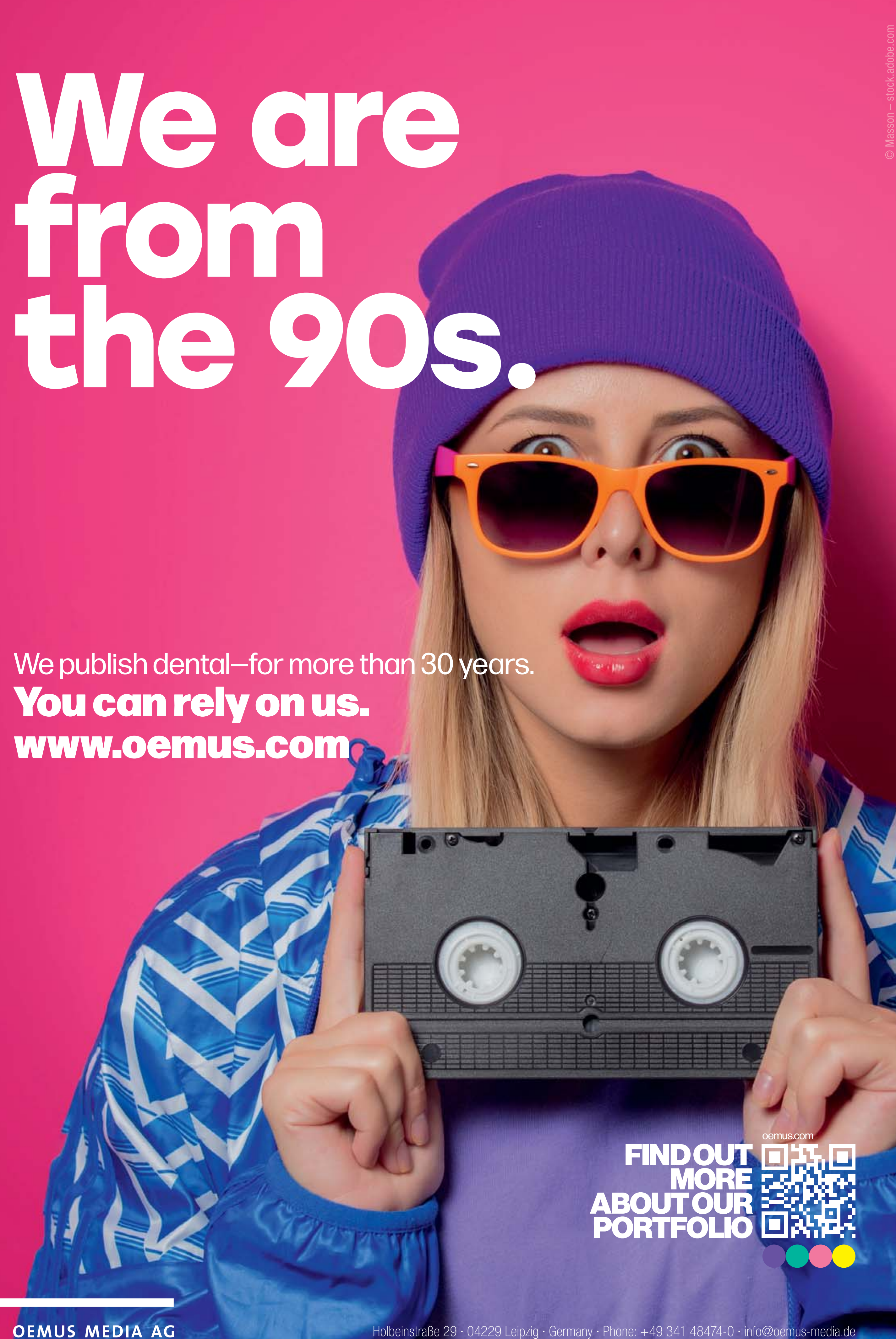


The new trade fair booth with a strong visual statement

A strong concept with a clear message

The new face of the BDIZ EDI at congresses and trade fairs is the new three-part illuminated booth, which not only serves as an information point to help visitors find the association, but also makes a strong visual statement: the association stands for expertise, guidance, and practical relevance.

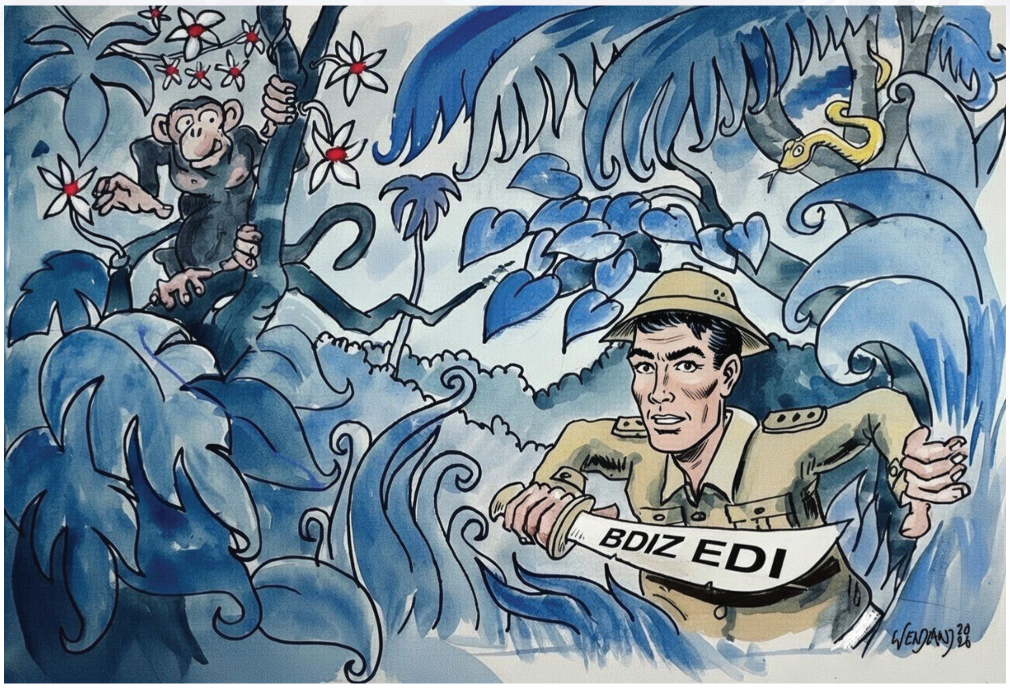
Each banner conveys a clear message:

- "Benefits for our members": The association demonstrates exactly what it offers—concrete, practical, and without empty phrases.
- "Billing—we help": The center of the booth communicates the core competence of BDIZ EDI: support with complex issues relating to private dental billing.
- "Out of the GOZ jungle": A powerful image for a real problem. The association positions itself as a guide through the German dental fee schedule—an issue that continues to concern dental practices after more than 35 years without any adjustment to the GOZ point value.

Design: bold, modern, memorable

The booth design combines three completely different yet harmoniously coordinated visual worlds.

- Pop Art illustration: The left banner featuring the surprised woman in a retro comic style immediately attracts attention. It conveys energy, modernity, and a touch of self-irony—a deliberate stylistic break intended to stand out from the crowd of conventional dental exhibition booths.
- Clarity at the center: The middle banner forms the calm center of the installation. The BDIZ EDI logo takes center stage, surrounded by clean white space and professional typography. It serves as an anchor point between the two emotionally charged visual worlds.
- Jungle comic on the right: The "GOZ Jungle" is visualised humorously. The scene featuring the BDIZ EDI expedition explorer illustrates what the association stands for, following the motto: We'll get you out and clear the way.



The comic creates a sense of approachability and demonstrates that even complex topics can be communicated clearly and sympathetically.

The interplay of pop art, corporate design, and comic illustration creates a visual dynamic that is both eye-catching and memorable.

The visual language is intentionally accessible, humorous, and approachable. It shows that BDIZ EDI is an association that not only informs, but also supports its members.

Content: precise, relevant, practice-oriented

The booth communicates the key services of BDIZ EDI clearly and concisely:

- Billing consultation
- Legal advice
- Free webinars
- Curricula and certifications
- Practice guides
- Patient information materials
- Ordering options via the online shop

QR codes lead directly to the website and online shop—a modern, user-friendly approach that makes access to information easier for congress and trade fair visitors.

Conclusion

The new BDIZ EDI trade fair booth is more than just a visual update. It is a strategic communication tool: eye-catching, clearly structured, professionally relevant, and at the same time approachable and professional.

It demonstrates what the association stands for: guidance through the jungle of dental billing regulations with expertise, humor, and a strong visual identity. President Christian Berger played a key role in the design concept. The booth was realised by zwei N – Mediafaktur Neubauer & Nücken GbR.

AWU

The 21st European Consensus Conference (EuCC) of the BDIZ EDI updates practical guide to the digital workflow

Digital implantology in transition

The digital workflow in dentistry has undergone a significant technological leap over the past two years. Oral implantology in particular has been strongly affected by this development. AI-supported analysis methods, interconnected data platforms, and highly precise CAD/CAM processes now define a workflow that is faster, safer, and more predictable than ever before. This is the conclusion of the 21st Expert Symposium of the BDIZ EDI and, at the same time, of the European Consensus Conference (EuCC), which has updated the BDIZ EDI practical guide originally published in 2024.

At the same time, the speakers and the internationally composed EuCC panel emphasise that one fundamental principle remains unchanged: clinical responsibility continues to rest entirely with the practitioner—even as AI systems become increasingly powerful.

Modern software identifies anatomical structures more reliably, merges imaging data more precisely, and supports implant positioning with a high degree of predictability. Open interfaces and cloud-based platforms enable a seamless, fully integrated workflow between dental practice, laboratory, and industry.

New CAD/CAM systems provide surgical guides, temporary restorations, and suprastructures with improved accuracy of fit and shorter production times. Guided surgery and digital prosthetics are now standard components of modern implant treatment.

Despite all technological advances, one point remains indisputable: AI is an assistance system, not a decision-maker. Final clinical assessment, indication setting, surgical execution, and therapeutic responsibility continue to lie entirely with the practitioner. AI-supported tools provide valuable assistance, but they do not replace professional expertise or the clinician's duty of care.

Conclusion

Over the past two years, digital implantology has reached a level of maturity that sustainably improves precision, efficiency, and the patient experience. At the same time, the practitioner's role remains central: modern technologies expand possibilities, but they do not replace human clinical responsibility, experience, and decision-making ability.

Availability

The practical guide 2026: The digital workflow in oral implantology will be sent free of charge to all members. It can also be purchased in German and English from the BDIZ EDI online shop at BDIZ EDI for EUR6.00 plus shipping costs.

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Bundesverband der implantologisch tätigen Zahnärzte in Europa e.V.

Guideline 2026

2nd Update: The digital workflow in oral implantology

21st European Consensus Conference (EuCC) in Cologne in 2026 — 14 February 2026

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Preamble

Due to the rapid advances in digital workflows, particularly in the field of CAD/CAM-supported superstructures, the EuCC Guideline—last updated in 2024—has again been updated in 2026.

Content — **Page**

1	Methods	2
2	Problem	3
3	Digital diagnosis	3
4	Digital impression and imaging	3
5	CAD/CAM-supported grafting techniques	4
6	3D-based guided implant placement	4
7	Digital lab procedures	5
8	AI in implant dentistry	6
9	Conclusion	7
10	References	8

European Association of Dental Implantologists
Bundesverband der implantologisch tätigen Zahnärzte in Europa e.V.

Guideline 2026

2nd Update: The digital workflow in oral implantology

1 Methodology

1.1 Objective
This guideline offers recommendations to help clinicians correctly assess potential indications for a digital workflow in implant dentistry and its limitations.

1.2 Introduction
This guideline covers the various digital procedures for diagnosis, surgical preparation, digital implant planning and prosthetic rehabilitation typically used in accordance with the indications recommended by the European Consensus Conference on implantology (EuCC), Cologne (Germany) on 14 February 2026.
All consensus recommendations in this paper should be considered as indicative only. The patient's individual situation must be considered, as it dictates all subsequent procedures and may justify deviations from the pronouncements made in this guideline.

1.3 Background
Digital procedures to improve or simplify the implant prosthetic workflow are presented for various treatment steps. To ensure an acceptable treatment outcome, the selection of the appropriate digital procedure for each indication is necessary.

1.4 Literature search
The Cochrane Library, EMBASE, DIMDI and Medline literature databases were used to conduct a systematic search of recent published data on digital workflows and directly related topics. Selective search criteria were used, including terms such as *digital, implant, cad/cam, grafting, guided surgery, abutment, superstructure, surgical guide, printing, AI.* The publications identified by the search were screened by reading their abstracts; and those irrelevant to the subject were excluded. Articles found to be potentially relevant were obtained in full-text form. Multiple review papers with meta-analyses and randomised controlled trials (RCTs) as well as other prospective or retrospective systematic clinical studies proved to be available on the subject.

1.5 Procedure for developing the Consensus Conference guidelines
The 2024 update of the EuCC Guideline served as the basis for the EuCC deliberations. This was reviewed and discussed by the members of the EuCC after updating (in particular) Section 7 "Digital lab procedures". The preliminary report was then reviewed and discussed by the sitting committee members in five steps as follows:

- Reviewing the preliminary draft
- Collecting alternative proposals
- Voting on recommendations and levels of recommendation
- Discussing non-consensual issues
- Final voting

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Guideline 2026

2nd Update: The digital workflow in oral implantology

2 Problem

Complex implant/prosthetic treatment can be performed in various stages with the support of digital technology. Today the aim in selected cases has been to improve the treatment efficiency and outcome by using a fully digital workflow **[34, 35]**. Various concepts are in use, but the innovation cycles and outcomes should be considered for complication-free use in daily practice.

3 Digital diagnosis

3.1 Introduction

Routine implantological diagnosis continue to rely primarily on referenced panoramic radiographs (panoramic images with calibration markers). However, these imaging modalities are associated with inherent limitations regarding measurement accuracy and the reliable assessment of available bone volume **[26, 81]**. Morphological studies clearly demonstrate that 3D diagnosis enables precise evaluation of the osseous site in all regions of the jaws. Moreover, 3D imaging constitutes an essential prerequisite for the implementation of the prosthetic treatment objective using guided (navigated) surgical procedures **[61, 62]**.

3.2 Cone beam computed tomography (CBCT)

The use of three-dimensional data based on cone beam computed tomography (CBCT) provides more comprehensive diagnostic information and thereby helps to avoid problems and complications while enabling a more detailed and reliable diagnosis **[21]**. In addition to the classical indications, such as the assessment of grafting procedures or the evaluation of individual jaw morphology, contemporary clinical indications now also include immediate implant placement, immediate loading protocols and techniques aimed at the precise implementation of the prosthetic treatment objective **[63]**. Contemporary CBCT systems employing low-dose protocols allow for accurate implant planning with reduced radiation exposure, without compromising the precision of guided implant placement **[71]**.

4 Digital impression and imaging

Digital information other than X-ray can contribute to the overall prosthetic diagnosis based on function and aesthetics.

4.1 Definition

Digital impressions obtained via chairside scanning constitute the data basis for the fabrication of surgical guides, master models, implant abutments and gingiva formers.

4.2 Current observations

Digital impressions and CAD/CAM procedures save time and provide stable and predictable outcomes **[103]**. There is no difference in terms of clinical outcomes between conventional and digital impressions, even in full-arch cases **[25, 50]**. The accuracy of full-arch scanning by IOS differs based on clinical scenarios such as scanning strategies **[49, 99]**.
Digital scanning has been shown to be time-efficient and straightforward for implant-supported restorations, for example due to the use of scanbodies **[52]**. No significant differences in radiographically measured marginal bone loss were observed between treatments based on digital scans and those using conventional impressions **[79]**.
Emerging technologies such as spectrophotogrammetry may substantially improve workflows in fully edentulous patients or in patients with multiple implants **[73]**.

European Association of Dental Implantologists
Bundesverband der implantologisch tätigen Zahnärzte in Europa e.V.

Guideline 2026

2nd Update: The digital workflow in oral implantology

The best-fit algorithm registration method demonstrated higher trueness and precision in dentate jaw regions compared with manual point-to-point registration. The accuracy of the registration between digitised occlusal surface scans and digital casts is influenced both by the registration method used and by the location and extent of edentulous areas **[66]**.

4.3 Prevention of complications

- Accurate scanning of a complete dental arch requires specific scanning strategies.
- However, the digital transfer of occlusal relationships and articulation has not yet been fully established for routine clinical use.
- Significant differences in accuracy have been identified among intra-oral scanners, making an individual, indication-specific selection necessary for different treatment protocols **[99]**.

5 CAD/CAM-supported grafting techniques

5.1 Introduction

To reduce donor-site morbidity, various types of allogeneic or xenogeneic block grafts have been introduced in the past **[46]**. The reported outcomes and the available evidence remain controversial **[7, 10]**. Alternatively, titanium meshes have been used to stabilise grafts; however, this approach requires extensive intraoperative adaptation to the defect morphology. Individually manufactured implants produced by copy-milling and segmented CBCT data were presented in the past but have not become established for routine clinical use **[42, 78, 86]**.

5.2 Custom-made bone blocks and implants

To improve outcomes and simplify clinical workflows, the use of CAD/CAM technology in combination with CBCT data for the individualised fabrication of bone blocks, titanium meshes and implants is recommended **[12, 13, 47, 88]**.
To further enhance clinical results, various techniques involving three-dimensional printed frameworks, including the optional use of stem cells or bone morphogenetic proteins (BMPs), are currently under scientific investigation **[12]**.

5.3 Current observations

Reports on corresponding clinical outcomes remain controversial **[24, 41]**.
Exposure rates of CAD/CAM-fabricated titanium meshes are lower than those reported for conventionally shaped meshes; however, exposure rates as high as 31% have still been observed **[30, 106]**.

5.4 Prevention of complications

All techniques described require specific and meticulous soft-tissue management.

6 3D-based guided implant placement

6.1 Introduction

Various systems for guided surgery are available, using either surgical guides or real-time navigation **[20, 58]**. The accuracy of static surgical guides does not differ significantly from that of dynamically guided surgery **[3, 53, 103]**. Studies on guided implant surgery demonstrate that, under clinical conditions and when protocols are strictly followed, a positional deviation of approximately 1 mm and an angular deviation of about 5 degrees from the planned ideal implant position can be expected. In contrast, the outcomes of freehand implant insertion cannot be reliably predicted **[37, 59, 60, 94]**. Minimum distances to neighbouring structures (e.g. inferior alveolar nerve, adjacent teeth, maxillary sinus) must be maintained.

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6.2 Support of surgical guides

The support and intraoperative positioning of surgical guides can be achieved in different ways. In addition to tooth-supported or mucosa-supported guides, bone-supported guides as well as stabilisation using auxiliary implants or anchor pins have been described. Clinical outcomes are reported to be similarly favourable across these support modalities **[20, 60, 91]**.

6.3 Optimisation of the prosthetic treatment objective

Matching and registering digital prosthetic planning data (e.g. wax-ups or mock-ups) or three-dimensional photographic data is indicated and, through a 3D-based workflow combined with 3D printing, results in surgical guides that precisely incorporate the intended prosthetic treatment objective.

6.4 Support for minimally invasive procedures

Based on digitally acquired and optimised planning data, in combination with the implementation accuracy of guided surgery, soft-tissue mobilisation for augmentation or implant placement can be reduced in many cases. Examples include modified approaches to external sinus floor elevation or bone-splitting techniques, in which the soft tissues covering the residual bone can be preserved **[64, 65]**.
Emerging technologies using augmented reality-assisted navigation may offer greater accuracy than conventional navigation systems and freehand procedures **[101, 102]**.

7 Digital lab procedures

7.1 3D printing

7.1.1 Introduction

Various printing techniques are available for the fabrication of surgical implant guides, 3D-based metallic primary frameworks, healing abutments and secondary ceramic or polymer superstructures **[69]**.

7.2 CAD/CAM-supported abutments and superstructures

7.2.1 Definition

Several CAD/CAM manufacturing techniques are available, including milling, three-dimensional printing, and selective laser melting (SLM) **[38, 43]**. All of these techniques require a validated workflow **[90]**.
Investigations into the accuracy of screw-retained CAD/CAM abutments have demonstrated higher accuracy compared with conventionally manufactured or copy-milled superstructures, with no relevant differences observed between the materials used **[1, 22, 23, 39]**.
Accordingly, the marginal fit of interim crowns and implant-supported frameworks manufactured using either additive or subtractive techniques is within the clinically acceptable range **[22, 56, 95]**. Nevertheless, a study using micro-computed tomography demonstrated that crowns produced with different 3D printers showed considerable differences in fit **[11, 27]**.
A newly formulated 3D printing resin, however, exhibited lower volumetric shrinkage, high accuracy, and sufficient mechanical properties compared with commercially available resin materials **[45]**.
It was also shown that the type of surface treatment influences surface roughness, translucency, and colour in all CAD/CAM manufacturing techniques **[8, 14, 62, 84, 85, 100]**.
Evidence regarding the mechanical properties of three-dimensionally printed and computer-aided design/computer-aided manufacturing (CAD/CAM) materials remains limited **[107]**. An *in vitro* study demonstrated that the manufacturing method can influence mechanical properties. 3D-printed materials

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Guideline 2026

2nd Update: The digital workflow in oral implantology

showed inferior mechanical properties compared with milled materials, although thermocycling negatively affected all materials tested **[75]**. Conversely, it has also been demonstrated that 3D-printed resin crown materials caused less antagonistic enamel wear than lithium disilicate **[17]**.
There is evidence suggesting that resin composite blocks may reduce biofilm formation **[36]**.
More recently, progress in metal-based 3D printing has also been reported; however, these developments do not yet have clinical relevance **[82]**.

7.2.2 Current observations
The available data suggest promising results for CAD/CAM-fabricated implant-supported restorations. A six-month follow-up study of implant-supported monolithic rehabilitations using fixed prostheses according to the All-on-4 concept and a fully digital workflow demonstrated that this approach already represents a viable treatment option **[19, 68]**. However, the current level of evidence remains limited due to the quality of the available studies and the lack of long-term clinical data (five years or more) **[32, 69]**.

7.2.3 Prevention of complications
- When using CAD/CAM techniques, it is recommended to adhere to a validated workflow.
- If any step within the workflow is modified, revalidation of the entire workflow is advisable.
- Due to the flexibility of the mandible, non-precious metal frameworks should be used for full-arch reconstructions. For ceramic veneering, a highly elastic alloy is recommended.

8 AI in implant dentistry

8.1 Introduction
An increasing number of studies are applying deep learning techniques in oral implantology, particularly in digital radiological imaging **[6]**. AI models using panoramic and periapical radiographs can accurately identify and Classify dental implant systems or detect changes in marginal bone levels **[5, 18]**.
Segmentation of anatomical structures is further enhanced through AI-assisted approaches **[2]**.

8.2 Current observations
New algorithms are capable of identifying critical anatomical structures, such as the inferior alveolar nerve canal, as well as determining available bone for AI-supported implant planning **[6]**. However, an additional clinical benefit compared with conventional approaches has not yet been demonstrated **[54]**.

8.3 Avoiding complications
The oral surgeon ultimately bears clinical responsibility. All AI-supported processes require monitoring and, if necessary, correction.

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9 Summary

Digital technologies in implant dentistry are improving, with good clinical outcomes and improvements in patient-related outcome measures (PROMs). Specific parameters for individual workflows must be considered by the healthcare provider.

Cologne (Germany), 14 February 2026

Christian Berger
President of BDIZ EDI

Prof. Dr H.-J. Nickenig
University Hospital Cologne
Oral Surgery and Implantology

Prof. Dr Dr Joachim E. Zöller
Vice President of BDIZ EDI

Literature

Highlights from the 21st Expert Symposium in Cologne

Special moments

The 21st Expert Symposium in Cologne proved once again that it is, in many respects, the meeting place for dentists specialising in implantology. Characterised by a mix of outstanding specialist presentations, collegial exchanges and workshops in which industry partners presented hands-on innovations in the field of digital workflows, the BDIZ EDI delivered a dazzling array of highlights through its selection of speakers, the lively discussions with participants, a strong international flavour thanks to the attendance of committee members from the European Consensus Conference on Implantology, and the supporting programme centred around the Cologne Carnival.

The rooms at Cologne's Pullman Hotel provided a professional yet warm setting with a spectacular view of Cologne Cathedral. During the breaks, a palpable energy emerged: colleagues discussed, laughed together and made new contacts. Many participants emphasised how valuable it was to exchange ideas on various levels—a sense of community that extended beyond the professional context.

The symposium—moderated by BDIZ EDI President Christian Berger—made a lasting impression, particularly against the backdrop of the Cologne Carnival. Continuing professional development and the carnival have been the successful formula of Prof. Dr Dr Joachim E. Zöller for over 20 years; on Sunday evening, he once again invited the participants to the Sunday session of Die Grosse von 1823 to the Gürzenich and welcomed them in his capacity as president of Cologne's oldest carnival society.

The BDIZ EDI would like to thank all those involved for this successful start to the training year: the speakers Markus Tröltzsch, Prof. Ralf Smeets, Ertan Erdogan, Gerhard Werling, Prof. Daniel Edelhoff, Tobias Graf, Frank Spitznagel and Prof. Peer Kämmerer; to the members of the European Consensus Conference from Europe and the Indian subcontinent; to the participants for their enthusiasm in the discussions; and to the industry partners for the highly interesting workshops: BEGO, Septodont/RapidShape, SprintRay, Visiomedical.

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Fig. 1: View of the cathedral from the event hotel. – **Fig. 2:** Workshops run by industry partners with Dr Dr Markus Tröltzsch. – **Fig. 3:** The European Committee of the BDIZ EDI. – **Fig. 4:** Speaker Prof. Dr Dr Ralf Smeets. – **Fig. 5:** Inside the workshop. There were four workshops with rotating attendance. – **Fig. 6:** Speaker Ertan Erdoğan. – **Fig. 7:** Speaker Dr Gerhard Werling. – **Fig. 8:** Celebrations at the Gürzenich during the Sunday session of the “Grosse von 1823”. – **Fig. 9:** Speaker Prof. Dr Daniel Edelhoff. – **Fig. 10:** Speaker Priv.-Doz. Dr Tobias Graf. – **Fig. 11:** The auditorium fills up. – **Fig. 12:** Speaker Priv.-Doz. Dr Frank Spitznagel.

Starting in 2026, in person and online

Expert witness curriculum in implantology

The BDIZ EDI has announced an expert witness curriculum in implantology for 2026. The association is thus expanding its continuing education offerings with a programme specifically aimed at interested dentists who want to look behind the scenes at the work of dental expert witness, courts and lawyers in disputes and qualify as experts themselves.

In addition to in-depth specialist knowledge in dental disciplines, the expert witness curriculum also teaches the legal, ethical and methodological foundations of expert work. Dentists are enabled to record and evaluate treatment processes from an expert witness' perspective.

The event

The curriculum is delivered in a hybrid format across several modules within a year—i. e. online and in person—and takes place on weekends (Friday/Saturday). It concludes with certification by the BDIZ EDI. The number of participants is limited to 30 to enable intensive work in small groups. The exact dates will be announced in March 2026.

Part A and Part B

The curriculum is divided into two parts: Part A covers legally compliant treatment and Part B deals with the work of the assessor. The curriculum is led by Prof. Dr Andreas Schlegel (Munich), expert advisor to the Bavarian KZV and, until 2022, advisor for expert services to the Bavarian State Dental Association in conjunction with the KZVB. Schlegel developed the programme together with Dr Markus Tröltzsch (Ansbach), who heads the Southern Curriculum for the BDIZ EDI and sits on the BDIZ EDI's executive committee.

The live events take place in Munich. The pool of speakers includes experts from various dental disciplines and lawyers, including judges, public prosecutors and chamber representatives for expert opinions (including Prof. Dr Andreas Schlegel, judge Dr Kerstin Gröner, senior public prosecutor Thomas Hochstein, barrister Susanne Ottmann-Kolbe, Prof. Dr Christoph Benz, solicitor Prof. Dr Thomas Ratajczak, Christian Berger, Dr Markus Tröltzsch, Prof. Dr Joachim Zöller, Prof. Dr Johann Müller, Prof. Dr Christian Gernhardt, Dr Markus Bechtold, Prof. Dr Peter Proff, Dr Bernd Rehberg, Dr Katharina Bücher, Prof. Dr Jörg Neugebauer, Dr Stefan Liepe, Prof. Dr Falk Schwendicke).

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Part A: Legally compliant treatment

Module 1: Expert witnesses, courts, litigation, in person

Friday 9:00 a.m.–7:30 p.m.	
9:00 a.m.–9:15 a.m.	Welcome
9:15 a.m.–11:00 a.m.	What judges expect from experts
11:00 a.m.–11:15 a.m.	Coffee break
11:15 a.m.–1:00 p.m.	What does the public prosecutor expect from the expert witness?
1:00 p.m.–2:00 p.m.	Lunch break
2:00 p.m.–3:30 p.m.	Types of expert reports: court reports for civil, criminal and social courts, other reports, expert opinions, clarification, expert evaluation criteria, the most common errors
3:30 p.m.–4:00 p.m.	Coffee break
4:00 p.m.–7:30 p.m.	Conservation issues in expert reports
7:30 p.m.	Option to have dinner together (advance booking required)

Saturday 9:00 a.m.–6:30 p.m.	
8:30 a.m.–12:30 a.m.	Court reports, X-ray findings, expert examinations, formal design of reports, dealing with comments and judgements, dealing with scientific data and databases, fundamentals of expert witnessing, fundamentals of the arbitration mechanism, legal basis of public law corporations in dentistry and their impact on professional practice, legal proceedings against dentists
12:30 a.m.–2:30 p.m.	Lunch break
2:30 p.m.–3:30 p.m.	Expert report templates, the purpose of presenting a uniform appearance, how to write an expert report, dealing with scientific literature
3:30 p.m.–6:30 p.m.	How to write an expert report, sample reports in groups

Module 2: Legal basis in general, online

Saturday 9:00 a.m.–6:00 p.m.	
9:00 a.m.–12:00 a.m.	Basics of documentation, clarification, difference between process documentation and billing documentation
12:00 a.m.–1:00 p.m.	Lunch break
1.00 p.m.–6:00 p.m.	Correct billing, defending a dental colleague, dealing with mistakes

Part B: System of expert assessments

Module 3: Legal basis specifically*, online

Friday 9:00 a.m.–7:15 p.m.	
9:00 a.m.–12:00 p.m.	Prosthetics
12:00 p.m.–2:00 p.m.	Lunch break
2:00 p.m.–5:00 p.m.	Endodontics
5:00 p.m.–5:15 p.m.	Break
5:15 p.m.–7:15 p.m.	Periodontology

Saturday 9:00 a.m.–7:15 p.m.	
9:00 a.m.–12:00 p.m.	Orthodontics as reflected in dental reports
12:00 p.m.–1:00 p.m.	Lunch break
1:00 p.m.–4:00 p.m.	Oral and maxillofacial surgery
4:00 p.m.–4:15 p.m.	Break
4:15 p.m.–7:15 p.m.	Implantology

Module 4

Day 1: Legal basis specifically*, online **Friday 9:00 a.m.–7:15 p.m.**	
9:00 a.m.–10:30 a.m.	Functional analysis and therapy as reflected in the dental report
10:30 a.m.–12:00 p.m.	Billing issues
12:00 p.m.–2:00 p.m.	Lunch break
2:00 p.m.–5:00 p.m.	Paediatric dentistry
5:00 p.m.–5:15 p.m.	Break
5:15 p.m.–7:15 p.m.	Radiological issues including CBCT

** for modules 3 and 4, possibly full-day intensive blocks*

Day 2: Guidelines, cases and digital technology/AI, online **Saturday 9:00 a.m.–7:15 p.m.**	
9:00 a.m.–12:00 p.m.	Fundamentals guidelines, significance
12:00 p.m.–1:00 p.m.	Lunch break
1:00 p.m.–4:00 p.m.	Crazy cases
4:00 p.m.–4:15 p.m.	Break
4:15 p.m.–7:15 p.m.	Digital technologies/AI

Module 5: Court live in Munich or Düsseldorf, in person

Friday 9:00 a.m.–7:00 p.m.	**Saturday 9:00 a.m.–7:00 p.m.**
The role of the expert witness in court—from the file to the hearing; the court proceedings, fundamentals in court and practical exercises based on a specific case file	Risks in court: bias, stumbling blocks and rules of the game in oral hearings—training and live simulation of an actual court proceeding

Module 6: Self-study and report writing

Module 7: Completion, in person

Friday 2:00 p.m.–7:00 p.m.	
2:00 p.m.–7:00 p.m.	Presentation of the participants' completed expert reports

Saturday 9:00 a.m.–3:00 p.m.
Presentation of the participants' completed expert reports
Final discussion and presentation of certificates

Interested?

Anyone interested in the BDIZ EDI expert curriculum should register their interest. There are only 30 places available in total to ensure learning success.

To register, send an e-mail with the subject line "Expert Curriculum" to office@bdizedi.org.

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Obituary for Jürgen Isbaner

A visionary and astute observer of the dental industry

With deep sorrow, the dental community bids farewell to Jürgen Isbaner, who passed away in February 2026 at the age of 66. His death leaves a profound void—both personally and professionally. Jürgen Isbaner was far more than an experienced media manager: he was a visionary, a driving force, an astute observer of the industry, and a trusted partner to all who worked with him.

For many years, as a member of the Executive Board of OEMUS MEDIA AG, he played a defining role in shaping professional dental communication in Germany. With his keen instinct for relevant topics, his structured approach to work, and his calm and approachable manner, he succeeded in transforming complex subjects into clear and compelling publications. Colleagues valued him for his loyalty, integrity, and unwavering commitment to quality.

He was the spiritus rector behind the negotiations between today's partners, OEMUS MEDIA AG and BDIZ EDI, which in 2022 led to a highly constructive collaboration between the publisher and the editorial board of the two professional journals *BDIZ EDI konkret* and *EDI Journal*—a partnership that continues to this day. The publishing activities of OEMUS MEDIA AG for and together with BDIZ EDI helped steer the publications back into calmer waters during a period of major transition, particularly within the implantology sector of the dental market. Jürgen Isbaner had a remarkable ability to understand the concerns and objectives of BDIZ EDI precisely and translate them into a publishing language that was both economically sound and practice-oriented.

Jürgen Isbaner also demonstrated, through continuing education initiatives, what an inspiring partner he could be and how rewarding collaboration with him was. In 2023, BDIZ EDI participated with its Europe Symposium as a cooperation partner in the OEMUS Giornate Veronesi in Valpolicella, Italy—a continuing education format refreshingly distinct from other events, not least because of the beautiful landscape near Lake Garda.

Jürgen Isbaner was a partner one could rely on at all times—a person who listened, found solutions, and always kept the common goal in focus: providing high-quality, independent information for implantology-oriented dental professionals.

His legacy lives on in the structures he helped build and in the people he influenced. His colleagues lose a highly respected companion-in-arms; many lose a friend.

Our thoughts are with his family and all those who were close to him.

BDIZ EDI will honor and cherish the memory of Jürgen Isbaner.

Christian Berger
on behalf of the BDIZ EDI Executive Board

Critical considerations for implant surgery in the aesthetic zone: precision, digital planning, and the pursuit of perfection

3 questions for Dr Erion Çerekja

At the recent Stockholm meeting, Dr Erion Çerekja, Tirana, shared his perspective on precision, digital workflows, and the realistic pursuit of perfection in aesthetic-zone implant therapy. We asked him to elaborate on the critical factors that guide his daily clinical decision-making.

Dr Çerekja, how do you balance the need for surgical precision with the natural biological variability of soft tissue and bone when placing implants in the aesthetic zone?

Surgical precision provides the structural foundation of every successful implant, but biology ultimately defines what is achievable. My approach always begins with detailed digital diagnostics CBCT evaluation, soft-tissue mapping, and prosthetically driven planning to establish the ideal parameters.

Once in surgery, I adapt these plans to the individual patient's tissue phenotype, bone density, vascularity, and healing capacity. Respecting biology means embracing minimally invasive techniques, preserving blood supply, and planning to support the tissues rather than forcing ideal positions. Precision provides the framework, but biology dictates what is realistically possible. The two must work together, not compete.

In your experience, which steps in digital planning are most critical for achieving predictable aesthetic outcomes, and how do you integrate them into your daily workflow?

Digital planning is indispensable in aesthetic-zone implant therapy. The most critical steps are defining the prosthetic outcome first, accurately merging CBCT data with intraoral scans, and positioning the implant in three dimensions with full respect for prosthetic, biological, and surgical parameters.

This workflow is routine in my practice. Digital tools improve communication with the laboratory, allow guided surgery to be executed with confidence, and enable patients to visualise their future smile. Predictability increases when every clinical decision is anchored to the final restoration.

Given the high expectations in the aesthetic zone, how do you define perfection in implant surgery, and how do you manage cases in which clinical limitations challenge ideal results?

Perfection is not simply about symmetry; it is about creating a natural, harmonious result that integrates seamlessly with the patient's facial features and expectations.

In challenging cases whether due to thin biotype, missing tissue, or structural defects communication becomes essential. I explain the biological limitations clearly and often propose a staged approach. Tissue augmentation, delayed protocols, and thoughtful sequencing allow us to approach excellence even when ideal anatomy is not present. The goal is always to deliver the best possible outcome within the boundaries of biology. Excellence is the goal; 'perfection' is the balance between what is ideal and what is biologically achievable.

In conclusion, we can say that implant surgery in the aesthetic zone is both a science and an art. While digital workflows have significantly raised the standard of precision and predictability, true clinical excellence still depends on experience, adaptability, and honest communication with patients.

Thank you very much for the insights into your working methods.

This interview was conducted by Anita Wuttke, Editor-in-Chief.

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The 19th BDIZ EDI Europe Symposium

Impressions from Athens

On 18 April 2026, Athens showed itself from its most impressive side: a clear view of the city, a sweeping vista of the Acropolis—and right in the middle of it all, an international audience of experts gathered for the 19th BDIZ EDI Europe Symposium.

Even upon arrival at the conference center of the Golden Age of Athens Hotel, there was a special energy in the air. A babble of voices in various languages, reunions with former classmates, initial discussions about new developments—the atmosphere was promising. A programme awaited the participants that shed light on the current challenges in implantology as well as the opportunities presented by digital and biologically oriented concepts.

Diversity of perspectives

The diversity of perspectives was particularly impressive: renowned speakers presented new findings on digital workflows, hard- and soft-tissue management, long-term stability, and clinical decision-making processes. The presentations combined scientific evidence with practical relevance—a hallmark of the BDIZ EDI that was repeatedly highlighted by the participants.

Between presentations, the breaks provided opportunities for in-depth discussion: colleagues discussed case studies, compared treatment approaches, and made new connections. The international composition gave the symposium a special breadth—one could sense just how much implantology thrives on global knowledge transfer.

European partner in scientific dialogue

A highlight of the event was the presentation by Prof. Phoebus Madianos, Chair of the EFP Congress Committee. He presented minimally invasive reconstructive strategies in aesthetic implant treatment. His presence underscored the close connection between periodontology and implantology while also recognising the role of the BDIZ EDI as a European partner in scientific dialogue. Many participants saw his words as a bridge between disciplines that are jointly shaping the future of oral medicine.

Impressive and captivating

No less impressive was the lecture by Prof. Stratis Papazoglou. He presented the surgical-prosthetic procedure for treatment with a single implant in the anterior region and demonstrated once again why the BDIZ EDI has been collaborating with this scientist for years. Dr Alexandros Manolakis is also part of the BDIZ EDI "team," as he regularly speaks at its symposia. In his captivating presentation, he highlighted just how precise modern digital workflows in implantology are.

Dr Erion Cerekja from Tirana is also a regular guest speaker at the BDIZ EDI European symposia. This year, he presented on predictability in implant surgery, outlining its fundamental principles and clinical strategies. Unfortunately, Prof. Robert Celic from Croatia was unable to attend due to illness. BDIZ EDI President Christian Berger stepped in for him, presenting on both the current practice guidelines from the European Consensus Conference on Implantology regarding digital workflows and complications in implant treatment. The latter was based on last year's consensus paper. We will be hearing more about Dr Dimitris Xygkas across Europe in the future. His excellent presentation on alveolar ridge augmentation using collagen-containing biomaterials is among the key topics shaping the future of oral implantology.

Conclusion

The symposium was not merely an academic event, but a source of inspiration. The participants took home new ideas—and a sense of belonging to a European community that is advancing the field of implantology with passion and a sense of responsibility.

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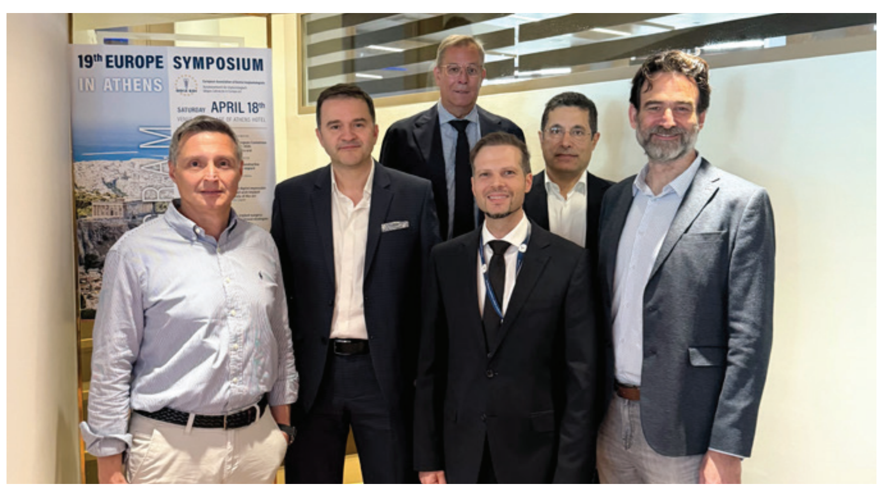

The international exchange of professionals—interdisciplinary event 2026

A global medical mosaic in Athens

When more than 300 experts from 40 countries converged in Athens from 15–17 April 2026, the city became a living crossroads of global medicine. The International Exchange of Professionals—Thematic Event in Medicine 2026, hosted annually by the World High Technology Society, unfolded as a vibrant, interdisciplinary meeting point where scientific worlds overlapped, collided, and ultimately enriched one another.

At the helm stood Dr Xiaodan Mei, executive chair of the congress and president of BIT Group Global Ltd., China, a self described "high end international conference organiser in the Asia Pacific Rim". His opening remarks set the tone: a call for collaboration across borders, disciplines, and generations to accelerate medical innovation in an era defined by complexity and rapid change.

Nine pillars of modern medicine

What distinguishes this event from traditional medical congresses is its architecture: nine major scientific meetings woven into a single, interconnected platform. Each congress brought its own community, its own challenges, and its own breakthroughs, yet all shared a common ambition—advancing human health through knowledge exchange.

- International Drug Discovery Science & Technology—spotlighting AI driven discovery, molecular engineering, and translational pipelines
- World Cancer Congress—exploring immunotherapies, precision oncology, and early detection
- World Congress of Neurotalk—from neurodegeneration to neural interfaces
- International Congress of Cardiology—addressing prevention, imaging, and interventional advances
- International Congress of Gynaecology and Obstetrics—maternal health, reproductive medicine, and surgical innovation
- World Congress of Infectious Diseases—global surveillance, AMR, and vaccine development
- World Congress of Orthopaedics—robotics, regenerative therapies, and trauma care
- World Congress of Digestive Disease—microbiome science, hepatology, and minimally invasive techniques
- World Congress of Oral & Dental Medicine—digital workflows, implantology, and oral systemic health

This structure transformed the congress into a medical mosaic—a place where oncologists learned from neuroscientists, cardiologists exchanged ideas with dental researchers, and infectious disease specialists debated with experts in digestive health. The result was a rare intellectual synergy.

Moderated by Dr Gerhard Litscher, Professor of the Swiss University of Traditional Chinese Medicine, eight keynote speakers briefly addressed their topics. Christian Berger, representing the European Association of Dental Implantology (EDI) as supporting organisation of the congress, referred to the diversity of the congress reflecting not only the complexity of modern medicine but also the critical need for integrated, cross-disciplinary approaches to tackle today's healthcare challenges. "At EDI, our mission goes beyond advancing dental implantology—it is about linking research, education, and clinical practice to create real-world impact," he says.

Keynote forum

The keynote forum started with the title: 358 years of science and innovation by Dr Ulrich Betz, Senior Vice President of Innovation, by the Merck group, Germany. Future perspectives for artificial intelligence in health gave Dr Efstathios Efstathopoulos, Vice Rector of Research and Innovation and Professor of Medical Physics at the National and Kapodistrian University of Athens. Aging and epigenetic changes in neuropsychatric disorders were brought to the attention by Dr Harry Steinbusch, Professor of the Maastricht University. Designing the once-weekly and oral GLP-1 Semaglutide was intro-

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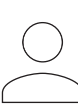

Most important: we would like to introduce you/the mind behind the article. So please send us also your portrait photo with a short biography about your professional career and your contact information.

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duced by Dr Jesper Lau, Associate Scientific Vice President, Global Research of Novo Nordisk, Denmark. Dr Zhi Q. Yao, Professor & Director of the Center of Excellence for HIV/AIDS, East Tennessee State University, USA, briefly spoke about synthetic gRNA/Cas9/Cas12/Cas13 ribonucleoproteins disrupt HBV replication and expression. Ups and downs of drug delivery systems (DDS) was conveyed by Dr Vladimir Muzykantov, Professor of the University of Pennsylvania, USA. Dr Heinz-Peter Schultheiss, CEO, of the Institute for Cardiovascular Diagnostics and Therapy and em. Professor and Chairman of the Cardiovascular Center at the University Hospital of the Charitè in Berlin, Germany, focussed on the analyses of endomyocardial biopsies as the basis for a casual, specific and personalised therapy in inflammatory heart muscle diseases. Dr Anil K. Dutta, Associate Professor from the University of Texas, Health Science Center at San Antonio, USA, lectured on the parascapular shoulder pain and the clinical characteristics, differential diagnoses, and management strategies.

Efstathios Efstathopoulos

Christian Berger

Harry Steinbusch

Vladimir Muzykantov

Heinz-Peter Schultheiss

Anil K. Dutta

Athens as a catalyst for exchange

Athens, with its millennia old tradition of scholarship and debate, proved an inspired setting. Delegates described the atmosphere as both intellectually charged and culturally grounding. Between sessions, conversations spilled into the city's cafés, museums, and historic sites, turning the congress into a living dialogue between past and future.

One of the big issues was the digital transformation in medicine, so to speak the AI-supported diagnostic, predictive analytics, and digital therapeutics were no longer presented as future trends but as present day realities reshaping clinical practice. From oncology to cardiology, the shift toward individualised treatment strategies dominated discussions.

The World Congress of Infectious Diseases underscored the urgency of coordinated surveillance systems and resilient healthcare infrastructures.

Orthopaedics, gynaecology, and digestive medicine showcased advances that reduce recovery times and improve patient outcomes.

Perhaps the most powerful theme: the recognition that breakthroughs increasingly occur at the boundaries between disciplines.

The congress also served as a launchpad for young researchers and innovators. Start-ups presented novel technologies, early career scientists shared pioneering data, and cross disciplinary mentorship flourished. The World High Technology Society's commitment to nurturing the next generation was evident throughout the programme.

A vision for the future

As the final sessions concluded, one sentiment echoed among participants: the future of medicine is collaborative. The International Exchange of Professionals—Thematic Event in Medicine 2026 demonstrated that when diverse scientific communities come together, the result is not merely additive—it is transformative.

The congress will move to a new host city next year, which will be Bucharest, Romania.

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Europe Ticker +++

Minamata Convention

End of amalgam by 2034

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At the conference on the Minamata Convention held in Geneva in November, more than 150 countries agreed to phase out mercury-containing dental amalgam fillings. This means that a material which has been a staple of everyday dental practice for generations is now facing its final demise, reports AFP. The World Health Organisation (WHO) ranks mercury among the ten most dangerous environmental toxins, toxic to both humans and nature alike. The international treaty on which the decision was based aims to reduce global exposure to mercury and its compounds, thereby protecting both human health and the environment. The convention was adopted in 2013 and came into force in 2017; more than 150 countries have signed it to date. Some countries have already banned amalgam, whilst others, notably a group of African nations, called in Geneva for an earlier phase-out by 2030. Resistance came primarily from India, Iran and the UK, which demanded longer transition periods. In the end, a compromise was agreed: a global phase-out by 2034.

Source: Dental Tribune

The trace element zinc in teeth

An indicator of bone density

Using complementary microscopic techniques, a team from Charité Berlin, TU Berlin and HZB has determined the distribution of natural zinc within the tooth. The result: as the porosity of the dentine increases towards the pulp, the zinc concentration rises by a factor of 5 to 10. This finding helps to better understand the influence of zinc-containing fillings on dental health and could lead to improvements in dentistry. The trace element zinc is almost entirely absent in some regions, whilst it is highly concentrated near the pulp. Until this study, it was not known how high the concentration of natural zinc is or how it is distributed in healthy teeth. The team, led by Prof. Dr Paul Zaslansky of Charité Berlin and Dr Ioanna Mantouvalou of HZB, set out to answer this question. However, discarded human teeth were not suitable for the study, as they are usually contaminated with zinc from treatments or toothpaste. They therefore used cattle teeth, which are produced in large quantities at abattoirs. Infrared analyses carried out with the IRIS team at BESSY II had shown that cattle teeth bear a strong resemblance to human teeth. At the same time, such teeth are much younger and have no history of dental treatment or brushing. "We were surprised to find that zinc can likely be used as a sensitive indicator of gradients in material density, which can change over the course of a lifetime. Density is linked to the mechanical performance of bone tissue and should be neither too high nor too low to fulfil its function in the human body. Using highly sensitive methods such as X-ray fluorescence, we may be able to monitor changes in density as part of the ageing process," says Zaslansky.

Source: Helmholtz Centre, Berlin

References:

Ioanna Mantouvalou, Leona Johanna Bauer, Vinh-Binh Truong, Yannick Wagener, Frank Förste, Oleksandra Marushchenko, Stephan Werner, Franco Lizzi, Frank Wieder, Timo Wolff, Birgit Kanngießer, Paul Zaslansky: Quantitative micro-XRF combined with X-ray imaging reveals correlations between Zn concentration and dentin tubule porosity across entire teeth; DOI: 10.1002/VIW.20250173

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Unhealthy food and alcopops

EU considers taxes

The European Commission is planning EU-wide levies on highly processed foods and alcopops from 2026—according to a draft of the Cardiovascular Health Plan. The "Safe Hearts Plan" was presented by the European Commission on 16 December 2025 as part of a comprehensive health package. It is the first joint European approach to tackling cardiovascular disease—the leading cause of death in Europe—and forms part of the European Health Union. The plan addresses the key challenges relating to cardiovascular disease across the EU, with a focus on the specific needs of vulnerable groups such as children, young people and women. It is designed to support Member States and stakeholders in the areas of health promotion and prevention, early detection and screening, as well as treatment and care (including rehabilitation) for cardiovascular diseases. Background: in some Member States, the number of deaths due to cardiovascular diseases is eight times higher than in others. The "Safe Hearts Plan" aims to close existing gaps in research and innovation, harness the potential of digital and innovative technologies such as artificial intelligence, and reduce health inequalities between Member States, regions and population groups.

Source: European Commission

OECD report on per capita health expenditure

Germany ranks first, followed by Austria

At €5,414 in 2023, per capita health expenditure in Germany is the highest among EU countries, according to the OECD report on European countries. Germany is followed by Austria at €4,901. Private healthcare expenditure in Germany consisted largely of out-of-pocket payments, which accounted for 11% of total healthcare expenditure and were thus well below the EU average of 16%. The 2023 OECD report paints a picture of a post-pandemic Europe that continues to grapple with reduced life expectancy, mental health issues, rising costs and strain on the system.

Source: OECD Report 2023

E-health score in Europe

Belgium and Estonia lead the way

Digital health services are gaining in importance across Europe. The COVID-19 pandemic has prompted many countries to introduce or significantly expand video consultations. Since then, the number of teleconsultations has continued to rise. Access to electronic health records and digital health literacy are at the heart of the digital transformation of healthcare systems. The European Union has set itself a clear target for e-health. By 2030, all EU citizens are to have access to their electronic health records. However, the current situation varies greatly between countries. According to the European Commission's report "Digital Decade 2025: eHealth Indicator Study—Final Report", access to electronic health records (EHRs) in the EU reached 83 per cent in 2024. This indicator, also known as the composite e-health score, sets 100 per cent as the benchmark for a fully mature state with comprehensive public access to electronic health data. The score thus rose by four percentage points from 79 to 83 per cent compared to 2023 and is eleven points above the 72 per cent figure recorded in 2022. Among 29 European countries, including the 27 EU Member States as well as Norway and Iceland, the EHR score ranges from 25 per cent in Ireland to 100 per cent in Belgium and Estonia. The Netherlands has the second-lowest score at 65 per cent—Ireland thus remains an outlier at the lower end. Denmark (98 per cent), Lithuania (95 per cent), Malta (94 per cent), Poland (92 per cent) and Norway (91 per cent) are also among the top performers. All achieve figures of over 90 per cent. In these countries, electronic records are available to a very large proportion of the population.

Source: Euro-News

ECJ ruling on amendments to internet contracts

Customers have an extraordinary right of termination

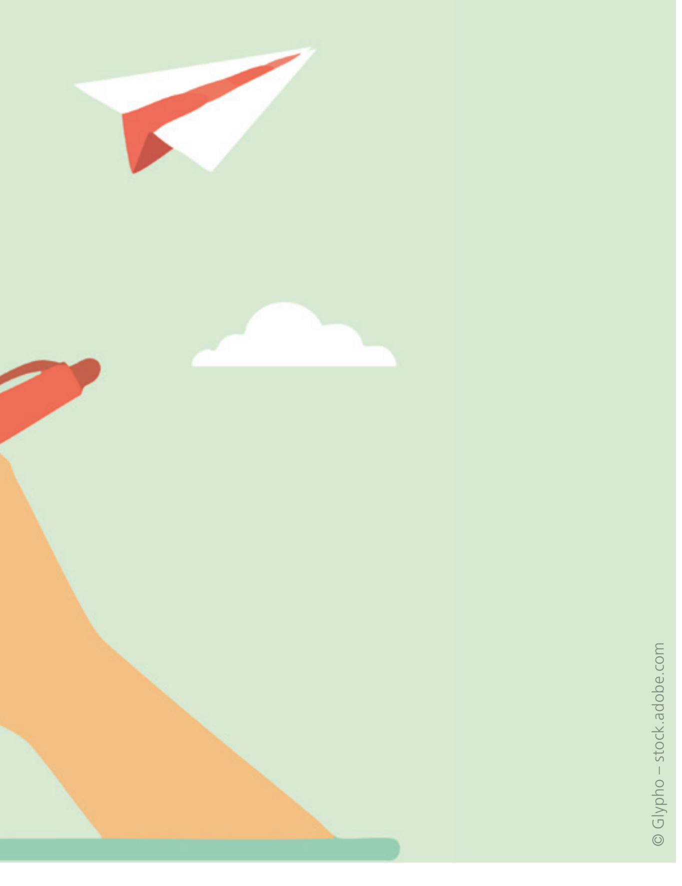
If internet contracts need to be amended due to the ban on zero-rating options (free of charge), customers are entitled to an extraordinary right of termination at no cost. This right to terminate without notice also applies where the provider is merely obliged to implement current case law. This has been clarified by the European Court of Justice.

A subscriber may terminate their contract for internet access services at no cost if a contractual amendment is made to comply with a decision of the Court of Justice. As such an amendment is not directly required by EU law, the exception to the right to terminate without charge does not apply.

Free of charge contracts

In judgements from 2021 and 2022, the Court of Justice interpreted EU law as precluding so-called "free of charge" options in contracts for internet access services. Following these judgements, the Hungarian Media and Communications Authority required providers of electronic communications services to amend subscriber contracts containing "free of charge" clauses. Under EU law, end-users have the right to terminate their contract at no additional cost if the provider proposes changes to the contract, except in certain cases, such as where the changes are directly required by EU or national law.

Magyar Telekom, a Hungarian company operating in the information and communication technologies sector, challenged the national authority's decision concerning it before the Hungarian courts. It takes the view that the exception to the right to terminate the contract free of charge applies not only where such changes are directly required by provisions of Union or Member State law, but also where they are required by Union or national law in a broader sense.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Hungarian court refers case to the ECJ

The Hungarian Supreme Court, which is hearing the case, asks the Court of Justice whether an end-user may terminate their contract free of charge if the provider proposes changes to bring the contract into line

- with the Court of Justice's interpretation of a provision of EU law,
- with the resulting guidelines of the Body of European Regulators for Electronic Communications (BEREC), or
- with a decision by a national authority implementing that judgement and those guidelines.

ECJ affirms the Hungarian court's questions: customer has a extraordinary right of termination

The exception to the right to terminate a contract free of charge must be interpreted narrowly and in accordance with the general objective of ensuring a high common level of protection for end-users. It applies only where the changes to the contractual terms are directly and unconditionally required by the entry into force or amendment of a legislative or administrative provision of EU law or national law.

The Court's interpretation in a preliminary ruling explains and clarifies the meaning and scope in which that provision is, or would have been, to be understood and applied from the date of its entry into force.

In other words, a preliminary ruling is not of a constitutive nature but is purely declaratory and therefore, in principle, has retroactive effect from the date of entry into force of the provision interpreted. It cannot therefore be regarded as an amendment to a legal or administrative provision of Union law.

BEREC ensures the uniform implementation of the regulatory framework in the field of electronic communications. However, its acts are not legally binding and do not fall within the legislative procedure of the Union. Consequently, it cannot be assumed that its guidelines directly require a provider of electronic communications services to amend its contractual terms.

Nor does a decision by a national authority have a normative character, since, in issuing it, the authority merely interprets the Union's regulations in the field of electronic communications and applies them to a specific case.

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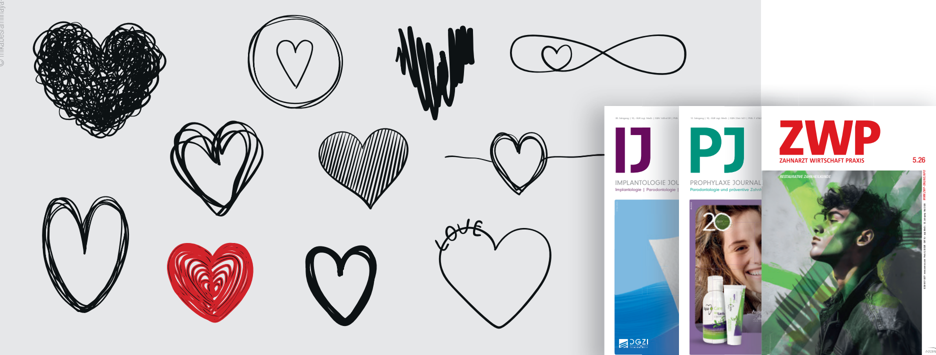

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The European Commission's proposed amendments—overview and assessment

Medical Device Regulation 2.0

The European Commission is pulling—at least by the standards of Brussels bureaucracy—something of an emergency brake on the Medical Device Regulation, commonly abbreviated to MDR.

The MDR is a regulation of the European Parliament and of the Council dated 5 April 2017 and is designated Regulation (EU) 2017/745. It replaced the Medical Devices Directive of 14 June 1993 (Directive 93/42/EEC—internationally abbreviated as MDD). Following several delays, the MDR came into force on 26 May 2021.

It was clear to all stakeholders outside the Brussels bubble that the MDR would cause a great deal of frustration. Now that the negative effects have become increasingly apparent, this realisation has evidently finally reached Brussels as well. Since 16 December 2025, there has been a 170-page commission proposal (2025/0404 [COD]) to revise the MDR and the IVDR (In-vitro-diagnostic Medical Devices Regulation), which is not particularly relevant to the dental sector. We will focus here solely on the MDR.

The primary aim of the new proposal is to simplify the regulations for medical devices and reduce the administrative burden on manufacturers, whilst continuing to ensure a high level of protection for public health and patient safety.

Anyone hoping that there will be less bureaucracy for medical device manufacturers will be disappointed after reading the draft. As is so often the case when a reduction in bureaucracy is promised, the administrative burden is reduced at best in isolated instances but is usually merely shifted elsewhere.

In the field of medical device law, so-called SMEs play an important role. They were defined by the European Commission in a recommendation of 6 May 2003 (2003/361/EC). The definitions are reproduced here as an extract from Article 2 of the recommendation:

(1) "The size classes of micro, small and medium-sized enterprises (SMEs) comprise enterprises which employ fewer than 250 persons, and which have an annual turnover not exceeding EUR 50 million or an annual balance sheet total not exceeding EUR 43 million.

(2) Within the SME category, a small enterprise is defined as an enterprise which employs fewer than 50 persons, and whose annual turnover or annual balance sheet total does not exceed EUR 10 million.

(3) Within the SME category, a microenterprise is defined as an enterprise which employs fewer than ten persons, and whose annual turnover or annual balance sheet total does not exceed EUR 2 million."

If we consider the German manufacturing market, 93% of it consists of SMEs, of which 12,000 are microenterprises within the meaning of this recommendation. The number of employees stands at around 210,000. There are currently around 500,000 different medical devices on the German market. 68% of German production is exported (source: BVMed industry report, as of October 2025). The MDR is of particular importance to Germany, which is now the world's second-largest manufacturer of medical devices. If the MDR weakens medical device manufacturers, it will primarily weaken German manufacturers.

Overview of the proposal

Objectives of the proposal

- Simplification of regulations and reduction of the administrative burden.
- Improvement of the predictability and cost-effectiveness of the certification process.
- Promotion of innovation and competitiveness in the EU medical device industry.
- Ensuring the availability of safe and innovative products.

Key proposed changes

- Introduction of more flexible requirements for clinical data and evidence.
- Adjustment of classification rules to lower the risk classes of certain products.
- Introduction of "regulatory sandboxes" (real-world laboratories) for innovative technologies.
- Strengthening the role of the European Medicines Agency (EMA) in coordinating and supporting expert panels.
- Promoting digitalisation, e.g. through the electronic submission of declarations of conformity and technical documentation.

Stakeholders affected

- **Manufacturers:** simplified procedures, reduced costs and support from the EMA, particularly for SMEs.
- **Notified bodies:** improved legal clarity and more efficient procedures.
- **Patients and healthcare systems:** ensuring the availability of safe and innovative products.

Digitalisation

- Expansion and adaptation of the EUDAMED database to incorporate new requirements.
- Introduction of an IT system to monitor supply disruptions and shortages.
- Electronic submission of documents and data, including declarations of conformity and implant cards.

International cooperation

- Promotion of global regulatory convergence and participation in international forums such as the International Medical Device Regulators Forum (IMDRF).

Budget and resources

- Estimated financial impact on the EU budget and the European Medicines Agency (EMA).
- Additional human resources for the EMA and the European Commission to implement the new tasks.

Timetable

- The regulation is set to enter into force from the second quarter of 2027, with transition periods for the implementation of the new requirements.

The document emphasises the need for EU-wide coordination to resolve the structural problems of the existing MDR (and IVDR, which we will not discuss further here) and to create a future-proof and innovation-friendly system. But for the time being, this is merely wishful thinking on the part of the European Commission. Similar arguments were previously put forward to justify why the MDD was insufficient and why the MDR was needed.

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The EU Commission's perspective

The Commission recognises that the much stricter requirements introduced by the MDR, which were also extended to medical devices already on the market, left the risk of supply bottlenecks and the discontinuation of medical devices, given the limited capacities of the notified bodies responsible for CE certification and the inadequate preparation of manufacturers, despite transition periods having been extended several times. It is acknowledged that the structural problems associated with the implementation of the MDR were underestimated and have not yet been resolved. An analysis commissioned by the commission has revealed that the MDR's regulations are negatively impacting both the availability of products and the competitiveness of EU manufacturers, with the European Commission now acknowledging for the first time the "many micro, small and medium-sized manufacturers" (SMEs).

One of the key criticisms of the MDR is its extreme bureaucratic burden, which transfers ideas from the regulation of pharmaceutical law—with its multinational corporations as the big players—to medical device law, without recognising that in this sector the big players are the so-called SMEs, not the international corporations. What large corporations can afford in terms of bureaucratic and testing costs, SMEs simply cannot. Medical devices are developed to meet specific healthcare needs, initially usually only in small batches, often enough in microenterprises. 52% of ideas for developing new or improving existing products come from users (BVMed, ibid.). One need only think of the development of dental implants since the 1950s, which, given the predominantly negative attitude of so-called school dentistry at the time under the aegis of the MDR, would hardly have been able to achieve CE marking, as many regarded implantology as the "red-light district of dentistry".

The commission notes the lack of a timeframe for product testing by notified bodies that manufacturers can reliably estimate, as well as the varying practices in this regard from country to country. Several of the certification requirements contained in the MDR are disproportionate to the actual risks posed by the products, leading to unnecessarily high costs and burdens. Overly ambitious requirements could lead small manufacturers to withdraw medical devices from the market or delay their market entry, with potentially negative consequences for patient care and public health.

This criticism can already be found in the comprehensive article on the MDR published in *BDIZ EDI konkret*, specifically in issues 2/2019 to 1/2020. At any rate, it has now also reached the commission.

The commission describes the need for change as urgent ("urgent need to take action"). One must agree with it on this point.

Results of the MDR evaluation

The commission reports on the results of the evaluation it ordered, which—unsurprisingly—has confirmed the warnings that were already being raised before the MDR came into force and have continued since then.

Most of the respondents who took part in the MDR evaluation came from Germany (23.42%), followed by Belgium (11.24%) and France (9.13%).

The commission's key finding from the evaluation is that, whilst the MDR has increased product safety and market transparency, this has come at the cost of high and often disproportionate compliance costs caused by the high regulatory complexity of the MDR requirements.

The Commission states: "The evaluation found that the regulations have strengthened the regulatory framework through stricter requirements for the designation and supervision of notified bodies, the conduct of conformity assessments and the collection of clinical data. However, these three dimensions are closely interlinked, and weaknesses in one area affect the entire system. A fragmented and protracted notification procedure reduces available capacity and leads to inconsistencies in supervision, which in turn contributes to divergent conformity assessment procedures. At the same time, incomplete or inconsistently assessed clinical data prolongs assessments and undermines predictability, whilst limiting the ability to demonstrate that the safety objectives of the regulations have been met. Although progress is evident, the combined effect of capacity bottlenecks, fragmented supervision and inconsistent data requirements means that efficiency, harmonisation and effectiveness fall short of expectations. This has led to a perceived unpredictability and disproportionate nature of the regulatory framework and has undermined stakeholders' confidence in the system. More specifically, the evaluation shows that this leads to a reduction in the availability of certain devices (e.g. innovative and niche devices), which has a negative impact on patient safety and the competitiveness of the industry.

The evaluation highlights several shortcomings and inefficiencies in the current regulatory framework, particularly regarding the simplification and optimisation of procedures. A fragmented and non-harmonised regulatory framework has led to numerous inefficiencies and unnecessary burdens for stakeholders, who are calling for a more centralised administrative structure. An unexpectedly high administrative burden appears to stem from redundant reporting and unnecessary duplication of work, posing significant challenges for stakeholders. The unpredictability and disproportionate nature of the system further exacerbate these concerns, particularly for economic operators who seek clarity and consistency in requirements to foster innovation without compromising safety. Digital solutions are frequently cited as potential ways to alleviate some of these burdens, increase efficiency and reduce resource bottlenecks. The fragmentation of administrative structures, overlapping reporting obligations and insufficient digitalisation contribute to increased administrative and compliance costs for public authorities and economic operators.

In summary, the targeted evaluation reveals the following:

- Certain requirements, particularly regarding conformity assessment procedures, are excessively complex, burdensome, time-consuming and costly.
- The application of the legislation by national authorities and notified bodies is not sufficiently harmonised.
- The existing coordination mechanisms are not sufficiently efficient or effective.
- There is a lack of adequate technical and regulatory advisory services at EU level.
- Adaptive pathways for breakthrough innovations and niche products do not exist.
- The regulations have unintended negative impacts on innovation, competitiveness and patient care.
- There is a need for improved coherence with other EU legislation, such as the Clinical Trials Regulation (CTR).

The evaluation has shown that the implementation of both regulations can be simplified and the administrative burden reduced without jeopardising their main objectives."

Proposed amendments

The commission is proposing numerous amendments to the MDR. A few provisions are to be repealed entirely, many are to be partially or completely reworded, and many new ones are to be added.

However, the commission is not guided by the principle of "less is more". Its primary concern is always patient safety. Yet the coronavirus crisis has shown that the clash between patient safety and regulatory depth in medical devices can lead to absurd results if the Gordian knot is not cut without regard for the printed standards. One need only think of the chaos surrounding face masks. At least the MDR is now to be explicitly granted exit options for general health emergencies and crises.

1. There are to be relaxations for micro and small enterprises regarding the person responsible for compliance with regulatory requirements. They will no longer be required to have constant and unrestricted access to such a person, but only to be able to access one (Art. 15[2] of the new MDR).
2. The validity period of the CE marking, previously set at five years, and thus the requirement for recertification, is to be abolished. Instead, notified bodies are to carry out periodic reviews, but only at intervals that are proportionate to the risk posed by a specific medical device (Art. 56[2] of the new MDR).
3. More data than previously should be available for clinical evaluation. This should apply to performance and safety tests. The use of new testing methods, such as computer simulation, should be encouraged. Manufacturers of class IIb and III medical devices should be allowed to seek advice from a panel of experts prior to conducting clinical investigations (Art. 61 of the new MDR).
4. Clinical investigations for "other" (non-commercial) purposes are no longer to fall under the MDR, and Article 83 of the new MDR is therefore to be deleted without replacement.
5. In order to put an end, at least in part, to the absurdity surrounding the certification of medical devices that have long been established on the market, a definition of a "well-established technology device" is to be introduced, which is intended to replace the existing list in Article 18(3), 52(4) and 61(6)(b) of the MDR. One need only think of all the surgical instruments that are still manufactured and ground by small craft workshops today. Had these businesses been forced to obtain certification under the rules currently still in force, these products would certainly have disappeared from the market as

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"made in Germany". The amendment will also be relevant to the information requirements under Article 18 of the MDR (keyword: implant passport). In future, this will generally no longer be required (new Article 18[3] of the MDR).

6. In future, there should no longer be an obligation to involve notified bodies if the product is repackaged or given a different name. The provision in Article 16(4) of the MDR is to be repealed.
7. Anyone who assembles or adapts a medical device that is already on the market for an individual patient within the scope of its intended purpose should no longer be required to fulfil manufacturer obligations (Article 16[1], second subparagraph, of the new MDR).
8. The classification rules for medical device classes in Annex VIII to the MDR are to be revised so that, in future, reusable surgical instruments, for example, are classified in a low-risk class. This, too, was one of the MDR's missteps: favouring single-use products in this area rather than products that have proven their worth for decades, particularly in the case of surgical instruments, from a sustainability perspective. Many hospitals have switched to single-use instruments in the wake of the MDR, some further driven by the COVID-19 crisis, resulting in a huge mountain of waste and corresponding costs.
9. The summary reports on safety and clinical performance required under Article 32 of the MDR should no longer be subject to separate review by notified bodies.
10. The time interval within which manufacturers must submit the safety reports required under Article 86 of the MDR is also to be extended.
11. For the reporting of serious incidents, the deadline is to be extended from the current 15 days (Article 87[3] of the new MDR) to 30 days.
12. Changes are to be made regarding notified bodies in Annex VII of the MDR.
13. Under certain circumstances, the transfer of so-called in-house devices to third parties is to be facilitated (previously excluded by Article 5[5][a] of the MDR).
14. The rules on the provision of information in the event of discontinuation or interruption of supply are also to be amended (new Article 10a MDR).
15. There will be new and simplified rules for medical devices of particular importance and for medical devices for rare applications (so-called orphan devices; new Article 52a MDR).
16. The commission wishes to be granted the power to adopt derogations from the MDR in the event of public health emergencies or crises, with the aim of rapidly placing products back on the market (Articles 59 and 59a of the new MDR).
17. To facilitate the development and testing of innovative products or new regulatory approaches, it should be possible to establish so-called regulatory sandboxes (real-world laboratories; Art. 59b and 59c of the new MDR).
18. The MDR is to shift focus from the preference for single-use devices to the production of reusable medical devices. In future, manufacturers will have to justify why a device is offered only as a single-use device (Art. 17[1] of the new MDR). All medical devices unjustifiably declared as single-use devices are deemed to be reusable.
19. Anyone who makes a single-use device reusable becomes its manufacturer within the meaning of the MDR (Art. 17[3], second sentence, MDR new). This is a hurdle that will hopefully be mitigated during the consultation process on the implementation of the commission's proposal.
20. Medical devices that have been granted a CE marking under the MDD remain marketable under the MDR if they are granted orphan product status (Art. 120[14] of the new MDR).
21. The definition of nanomaterials contained in Annex I, Chapter III, No. 10.6 of the MDR is to be replaced as it is outdated.
22. A new provision is to be introduced allowing for cooperation between manufacturers and notified bodies (Annex VII MDR).
23. The tasks of notified bodies in relation to medical devices classified as low and medium risk are to be reduced (Art. 52 and Annexes IX, X and XI MDR).
24. The additional consultation procedure in connection with the clinical evaluation is to be required only for class III implantable medical devices. However, national legislators are to be able to enact more extensive regulations in this regard (Article 54 of the MDR).
25. The fees charged by notified bodies are to be reduced for micro and small manufacturers as well as for orphan products, with the commission being granted the right to set the fees for notified bodies (Art. 50 MDR).
26. Cooperation between the authorities responsible for the MDR in the Member States is to be regulated (Art. 4, 4a, 51a and 51b MDR).
27. Joint asset teams are to be formed for this purpose (Articles 36–44 MDR).

28. The national authority responsible for the notified bodies is to be assigned the role of an ombudsman for the resolution of conflicts between manufacturers and notified bodies (Article 35 MDR).
29. Notified bodies are to be required to cooperate within the Notified Bodies Coordination Group (NBCG-Med) in future. The NBCG-Med is to be required to report to the MDCG (Art. 49 MDR).
30. The role of external expert panels is to be strengthened (Art. 106, 106a MDR).
31. In future, the EMA (European Medicines Agency) is to provide scientific, technical and administrative support in further areas, including for small and medium-sized manufacturers (Article 106b of the MDR).
32. Digitalisation is to be incorporated into the MDR, for example for the CE declaration (Art. 19, 110a, Annexes I and VI MDR).
33. In future, the technical documentation, reports and similar documents to be produced by manufacturers are also to be able to be provided in digital form (new Art. 52b MDR).
34. The online sale of medical devices is subject to new regulations (Art. 6 MDR).
35. The requirements for UDI and EUDAMED are clarified. Not everything should be required to go through EUDAMED (Art. 27–33, Annex VII MDR).
36. A new section on international cooperation is introduced (Art. 108a and 108b MDR new).
37. Unlike previously, it should be possible to conduct performance studies as part of combined studies in a single procedure, provided that this option is chosen in accordance with Art. 14c of regulation (EU) No 536/2014 (CTR; Art. 79a MDR new).
38. There are to be new provisions on cybersecurity (Art. 87a and Annex I MDR new).

Assessment

On a positive note, the European Commission is acting. The manufacturers who participated in the consultations on the reform of the MDR have therefore not done so in vain. The reform proposal thus stands as a typical example of the strategy that the European Commission has been pursuing in other areas since this legislative term of the European Parliament: simplification and deregulation.

On the negative side, the European Commission has not sufficiently considered SMEs.

However, it should become easier to place medical devices on the market if, as we hope, the EU legislator implements the commission's proposals.

Nor should the German Federal Government and the Bundestag be absolved of their responsibilities. In the Medical Devices Act Implementation Act (MPDG), which replaced the Medical Devices Act (MPG) as a result of the MDR, there is a need to streamline certain aspects, primarily to make life easier for SMEs. Germany was once the "pharmacy of the world" in the pharmaceutical sector. That was a long time ago. In the medical devices sector, Germany has now risen to become the world's number two. With little effort, significant support could be provided to domestic industrial SMEs. In dentistry, medical devices are far more important than medicines, particularly in implantology. Innovation and high quality improve patient protection in the long term.

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Did you ever know…

… that the BDIZ EDI publishes a Europe-wide recognised quality guideline for oral implantology?

The aim is to provide dentists and oral surgeons practising implantology with a benchmark that enables them to assess their own work. The quality guideline is designed for self-assessment and self-evaluation, as only the clinician is familiar with the work carried out and knows their patients, their wishes and their problems. Only they can reliably assess how these circumstances, which are of crucial importance for any medical service, have influenced the treatment outcome—whether positive or negative.

But the patient also needs reliable and understandable criteria in order to be able to assess the treatment outcome.

Click here for the quality guidelines: https://bdizedi.org/en/quality-guidelines.

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… that the BDIZ EDI has been publishing legal advice specifically for dentists specialising in implantology for 20 years?

These legal tips are a unique selling point—practical, legally sound—and drawn up by experts. The BDIZ EDI's legal advisor, Prof. Dr Thomas Ratajczak, provides clear explanations in every issue of the BDIZ EDI, offering guidance on liability risks and updates on the GOZ, GOÄ, MDR, patient records, data protection and dental law. If you want to know more, take a look at the section: "Abrechnung und Recht" in every issue of BDIZ EDI konkret. The current focus is on the EU Medical Devices Regulation, which is being revised by the European Commission—in this issue.

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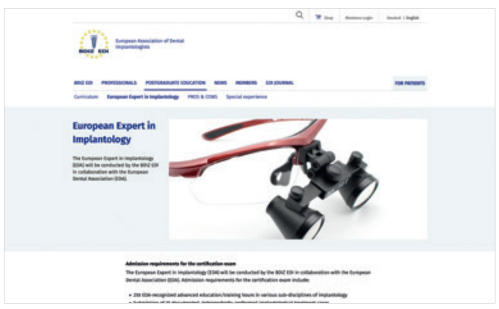
… that the BDIZ EDI offers a comprehensive training programme across Europe?

From the Implantology Curriculum and the Implantology Specialisation to the European Specialist in Implantology (EDA), the career ladder in implantology can be climbed. From basic knowledge to certification with high recognition. Continuing professional development as the key to the future is an important tool that the association offers its members.

New is the expert curriculum, which will start in autumn. More on this in this issue.



Obituary for Myron “Ron” Nevins

A visionary thinker

Myron “Ron” Nevins shaped modern periodontology and implantology like very few others. We will miss his scientific achievements, his humanity, and the lasting impact he left on the international professional community. Ron Nevins passed away on 24 December 2025.

Myron “Ron” Nevins was born in Philadelphia in 1938. He studied at Temple University, where he earned his Doctor of Dental Sciences degree, and completed his postgraduate training in periodontology at Boston University. Following his education, he joined the practice of Dr Gerald M. Kramer in Swampscott, Massachusetts—a step that marked the beginning of an extraordinary career.

Dr Nevins was regarded worldwide as one of the most influential clinicians and researchers in periodontology and implantology. He pioneered regenerative dentistry, particularly in bone regeneration and tissue engineering.

He also served for many years as editor of the *International Journal of Periodontics and Restorative Dentistry*, which under his leadership became one of the most important scientific platforms in the field. He played a defining role in international professional organisations, including the Osteology Foundation, whose scientific direction he helped shape significantly.

Through his dedication to research, teaching, and clinical excellence, he influenced generations of dentists around the world over more than six decades. His ability to bridge scientific knowledge and clinical practice made him a highly sought-after lecturer and mentor. Colleagues described him as a visionary thinker who consistently encouraged open dialogue and interdisciplinary collaboration.

Ron Nevins also had a profound influence on me personally. I first came to know and appreciate him in the 1980s and 1990s as a mentor and outstanding visionary in dentistry. His courses in Boston were legendary. I did not attend just one course; rather, I repeatedly accompanied colleagues whenever the destination was a “Nevins course” in Boston.

These courses became an international attraction because Nevins combined clinical precision, scientific depth, and exceptionally clear teaching. Participants traveled from Europe, Asia, and Latin America to experience firsthand his approach to regenerative periodontology, implantology, and interdisciplinary therapy. The atmosphere was characterised by intensive knowledge sharing, open discussion, and the feeling of being part of a global community working together to advance the future of the profession.

The influence of that time continues to shape my own work today—in the treatment concepts he taught and in the colleagues who gained decisive inspiration for their own professional development through these courses.

Beyond his professional accomplishments, Myron Nevins was deeply appreciated for his warmth, humility, and sense of humor.

He was a husband, father, and grandfather—roles that were just as important to him as his professional career. Even at an advanced age, he continued teaching at the Harvard School of Dental Medicine, where he remains unforgettable.

With the passing of Myron Nevins, the international dental community has lost one of its most distinguished representatives. His influence lives on in the scientific standards he helped establish, in the clinical methods he advanced, and in the people he educated, inspired, and supported.

We will miss him.

Christian Berger
President, BDIZ EDI

Implant care instructions brochure for patients

Implant maintenance is a team effort

The European Association of Dental Implantologists (BDIZ EDI) has published an English edition of its implant maintenance brochure. In easy-to-understand language, the brochure entitled "Implants—longer-lasting and longer beautiful" offers well-illustrated instructions and general information about oral health.

Teamwork of patient and the dental office is the most important aspect of the brochure. The maintenance brochure is intended for distribution to patients by dental practices and was written to assist them in teaching their patients take care of their dental implants in the appropriate manner. The 24-page patient information brochure in A5 format consists of a general section about oral hygiene and a main section on implant maintenance—all about the right cleaning tools and their use with single-tooth implants as well as fixed and removable implant-

Implant care instructions brought to you by your dentist
and the European Association of Dental Implantologists (BDIZ EDI)

Implants
Long-lasting implants
for long-lasting beauty

BDIZ EDI

Contents

I Introduction | I Proper implant care | I Good to know

Introduction
What is a dental implant? ... 4
Why is oral hygiene important? ... 5
Why is normal oral hygiene not good enough? ... 6
Why do implants need particularly intensive care? ... 7

Proper implant care
What tools are available for cleaning? ... 8
How do I properly use those tools? ... 9
What should I consider when cleaning my implants? ... 10
What is most important in the first days after implantation? ... 11
Caring for single-tooth implants ... 12
Caring for fixed dentures on implants ... 13
Caring for removable dentures ... 14

Good to know
Which toothbrush is the right one? ... 16
Why professional tooth cleaning? ... 17
Why do implants need a healthy environment? ... 18
What is peri-implantitis? ... 19
What are the risk factors? ... 20
How often do I have to visit the dentist for a check-up? ... 21
Checklist: Is everything as it should be with my implants? ... 22
Will my implant play along in every situation? ... 23

Service ... 24

3

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supported restorations. "Good to know" provides background information on choosing the right toothbrush and using the proper brushing technique, describes the process of professional tooth cleaning and educates readers about risk factors. A checklist intends to alert implant patients to possible changes in the mouth and around the implant. This is the first English edition of the brochure, which has been completely redesigned with large images and short texts in easy language that patients can understand. The preface states: "It is up to you to ensure careful oral hygiene, and this is a prerequisite for a long implant life. Teamwork is of the essence!"

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Bibliography

Implant care brochure of BDIZ EDI for patients
Long-lasting implants for long-lasting beauty

A5 format, 24 pages, 32 images
Prize: €1.50 + VAT + shipping (minimum order: 10)

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INTRODUCTION

Why is normal oral hygiene not good enough?

The threat of bone loss

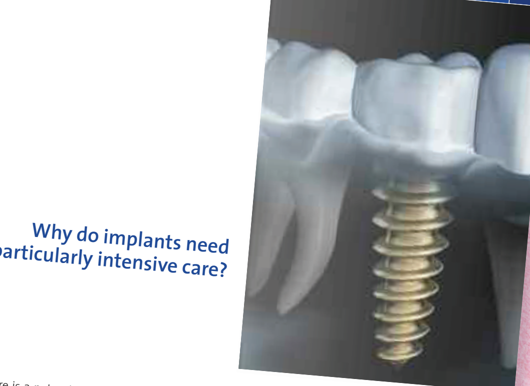
Dental plaque is home to numerous bacteria. As long as the plaque deposits are removed at regular intervals before they cause damage to the teeth or gums, the biological balance in the oral cavity will be maintained. But as soon as the plaque bacteria multiply, there will be an increasing risk of tooth decay and periodontal disease. Severe inflammatory conditions such as periodontitis (inflammation of the gums around a tooth) or peri-implantitis (inflammation of the gums around an implant) pose a significant risk for bone loss and may cause the loss of the tooth or implant.

What tools can and cannot do

- Toothbrushes (even the most futuristic electric ones) cannot clean the teeth everywhere because they do not get into the interdental spaces.
- Dental floss, interdental brushes or toothpicks are essential (there is even "thick" dental floss especially for use around implants). They are the only way to remove the bacterial plaque between the teeth.
- Oral irrigators are of limited use around implants and certainly not a substitute for proper tooth cleaning.

6

INTRODUCTION



Why do implants need particularly intensive care?

There is a natural protective barrier between each natural tooth and the surrounding gums. The transition zone between an implant and its surrounding gums can be passed more easily, so the risk is greater that bacteria can penetrate it and cause inflammation of the mucous membrane around the implant (peri-implant mucositis).

Since implant surfaces are usually rough and may be designed in screw form (depending on the system), invading bacteria can settle down easily and will be difficult to remove even by an experienced professional. Unless it can be stopped, the inflammation will keep on progressing, attacking the supporting jawbone and breaking it up or destroying it. The implant may work itself loose or even to fall out.

The many different types of bacteria in the mouth (in the oral cavity) will colonize implant roots in the same way as natural tooth roots.

But if you follow a few simple rules, things will not have to come this far. Proper maintenance is the be-all and end-all of implant care. You should invest a bit more time and effort than with "normal" tooth care. In this guide we show you how to maintain your implants carefully and gently.

7

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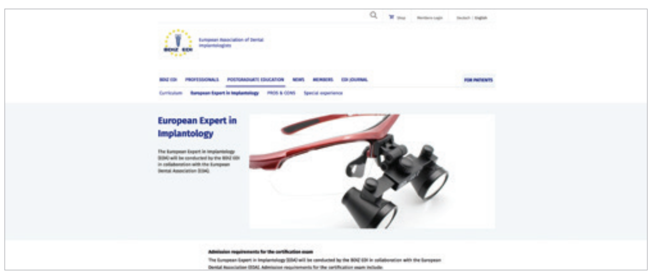
Certification as an EDA Expert in Implantology

Qualification for experienced implantologists

For many years, BDIZ EDI has been catering to experienced and well-versed oral implantologists by offering the certification exam for EDA Expert in Implantology. Jointly with the European Dental Association (EDA), BDIZ EDI regularly invites interested dentists to take the certification exam, which we would like to present in this article.

That quality is of paramount importance to BDIZ EDI is no secret. BDIZ EDI has demonstrated this in many different areas—legal and accounting, material testing, postgraduate education, the annual guidelines of the European Consensus Conference (EuCC) on current implantological issues and finally the qualification of court experts. BDIZ EDI also supports dental education with its Curriculum Implantology that introduces aspiring dentists and young implantologists to this dental specialty in eight well-organised modules.



Admission requirements for the certification exam

Certification as Expert in Implantology requires very good to excellent skills and knowledge. Candidates must meet the following admission requirements:

- 250 EDA-recognised continuing education/training hours in various sub-disciplines of implantology
- Submission of ten documented, independently performed implantological treatment cases
- At least five years of professional activity, primarily in the field of implantology.

Specific experience and primary activity in the field of implantology must be documented by at least 400 implants inserted and 150 implants restored within the past five years. Candidates who already obtained qualifications in oral implantology (e.g. from other professional societies) may submit the appropriate credentials with their application for certification as EDA Expert in Implantology.

The exam

Candidates meeting all the requirements will be admitted to the examination. The examination board of BDIZ EDI and EDA consists of recognised specialists. The exam has a theoretical and a practical part, both of which must be completed successfully. The procedure is as follows: the theoretical part of the exam will start with a discussion of the documented cases. In addition, candidates are expected to answer questions related to oral implantology and closely associated fields. The theoretical examination usually takes no longer than 60 minutes; it may be administered to candidates in groups. The practical part of the examination covers one or more recognised, state-of-the-art treatment method or methods and/or treatment plans covering some aspect of oral implantology. Candidates will be informed of the respective topic two weeks before the exam date. Candidates are responsible for providing the required materials and instruments on the day of the exam. The examination as a whole is subject to a fee to cover the cost incurred by the examination board.

New EDA Experts in Implantology are nominated by the president or vice president of the EDA certification committee.

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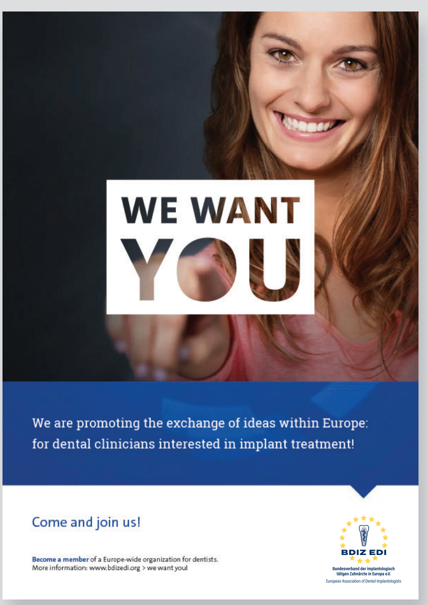
More information...

To register for the next certification exam, please go to www.bdizedi.org and select English > Professionals > Expert or write to the BDIZ EDI office in Munich at office@bdizedi.org.

BDIZ EDI and its multifaceted work

We want YOU!

At IDS 2025 BDIZ EDI is relaunching its "We want you" information campaign. The aim is to interest young dentists from Germany and Europe in oral implantology and in the work of BDIZ EDI.



With the "We want you" campaign, the association wants to draw attention to the many different support services it offers for all dental practices, even beyond implantology, including continuing education for newcomers to the profession and seasoned practitioners alike.

BDIZ EDI is an active Europe-wide association that in 2002 went beyond the borders of Germany to forge collaborations, support partner associations and make its voice heard in EU politics. Of course, health policy interventions are also initiated at the federal level. BDIZ EDI is the only association to have presented its own draft law on combating corruption in the health sector. It is currently working intensively on the Medical Device Regulation (MDR) and its many problems.

With its information offensive, BDIZ EDI is highlighting its work in the field of continuing education:

- "Meet the Experts" allows newcomers to get in touch with experienced implantologists and top lecturers.
- An absolute must for anyone interested in implantology is the Curriculum Implantology, which is run in cooperation with the University of Cologne and recently started in the south of Germany. This eight-module course teaches the key building blocks of implant dentistry to small groups of participants. The curriculum takes place at the University of Cologne. It runs for one year and is designed to be affordable for newcomers to the profession. Some partner associations have adopted, and adapted, the modules for their countries: Greece, Serbia, Poland and India.
- Each year, the BDIZ EDI Expert Symposium provides an update on a current issue in implant dentistry, and the associated European Consensus Conference (EuCC) provides guidance for practitioners.
- The Europe Symposium of BDIZ EDI provides an opportunity to look beyond the local dental fence and to appreciate the work of European colleagues and exchange ideas. This year's Europe Symposium will be taking place in Stockholm, Sweden.

A wide field

The full scope of BDIZ EDI's work is illustrated by the "BDIZ EDI informs" webinar series, which the association has been organising since the start of the COVID-19 pandemic in 2020. The continuing-education webinars feature top-notch presenters and cover dental topics (not just implantology!) as well as legal issues. The webinars are particularly suitable for strategic practice orientation for current and future practice owners. BDIZ EDI webinars are aimed at dentists and all members of the dental team. Participation is free of charge for members. On average, BDIZ EDI webinars are attended by between 150 and 400 participants. Members can view the recorded webinars in the seminar archive after the live broadcast.

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Integration of the 3P concept and same day provisionalisation

Digital workflow for immediate maxillary full-arch implant reconstruction

Dr Giuliano Fragola, Spain

A 60-year-old male with a compromised maxillary dentition underwent a digitally planned, immediately loaded full-arch reconstruction. A unified diagnostic dataset combining CBCT, intra-oral scanning and a digital wax-up was used within the 3P concept (Plan–Print–Place) to design implant positions and surgical guides. Six Axiom bone level implants were placed using a dual-guide protocol, followed by same-day digital impressions. A Ready to smile (RTS) workflow enabled rapid fabrication of a screw-retained PMMA provisional prosthesis through validated CAD/CAM libraries and model-less positioning of temporary cylinders. After three months of healing, a monolithic 3Y-TZP zirconia definitive prosthesis on Ti-base abutments was delivered following a hybrid analogue-digital verification process.

The patient achieved stable peri-implant soft-tissue health, satisfactory occlusion and improved masticatory function. No mechanical complications occurred during the provisional or definitive phases. Aesthetic continuity with the pre-existing smile was maintained, and follow-up evaluations at one, three and six months confirmed stable function and tissue adaptation.

This case illustrates the feasibility of combining the 3P Concept with a structured RTS digital workflow to support predictable immediate loading in maxillary full-arch rehabilitation.[4–7, 10–12] Integration of digital planning, guided surgery and CAD/CAM provisionalisation contributed to efficient treatment progression and favourable short-term outcomes.[4–9] Further studies are needed to validate long-term performance and to standardise fully digital full-arch protocols.[8, 9]

Introduction

Immediate full-arch implant rehabilitation increasingly relies on digital workflows that combine CBCT-based diagnosis, intra-oral scanning and CAD/CAM-generated restorations.[4, 5] Recent studies have shown that virtual prosthetic planning, digitally prefabricated provisional prostheses and guided implant placement can streamline treatment, reduce clinical steps and support predictable immediate loading when case selection and primary stability criteria are met.[4–7,10–12]

Static computer-assisted implant surgery (s-CAIS) has demonstrated higher accuracy than freehand placement, particularly in full-arch cases, and is associated with high implant survival and prosthesis success in the short to medium term.[6, 7] Methodological reviews also suggest that digital tools enhance communication between clinic and laboratory, reduce chairside time and improve prosthetic accuracy, although long-term evidence and standardised protocols are still limited.[8, 9]

Within this context, the 3P concept (Plan–Print–Place), developed by the author, provides a structured digital pathway in which prosthetically driven virtual planning, additive manufacturing of guides and guided implant placement are integrated into a unified sequence. When combined with Ready to smile (RTS) solution, an immediate loading concept based on validated digital libraries and CAD/CAM fabrication, the workflow enables a direct transition from virtual wax-up to guided surgery and rapid screw-retained provisionalisation.[10–12] This is particularly useful in situations where patients refuse removable interim prostheses or prolonged edentulism.[2]

The present clinical case illustrates the application of this combined digital strategy in a compromised maxillary arch requiring extraction of terminal teeth and failing implants, guided placement of new implants with simultaneous bone grafting, and same-day intra-oral digital impressions.

Initial situation

A 60-year-old healthy, non-smoking male presented with recurrent peri-restorative inflammation and perceived mobility affecting a maxillary fixed restoration placed approximately 15 years earlier. Owing to previous discomfort and social embarrassment during an earlier provisional phase, he categorically declined any removable interim solution and stated that he would not accept being edentulous for more than a few days. From an aesthetic standpoint, he was generally satisfied with his current smile but reported intermittent inflammation in the canine region associated with localised changes in gingival contour. He requested that any new rehabilitation preserve the overall tooth morphology and smile appearance as closely as possible.

Clinical examination revealed failing implant-supported restorations in both

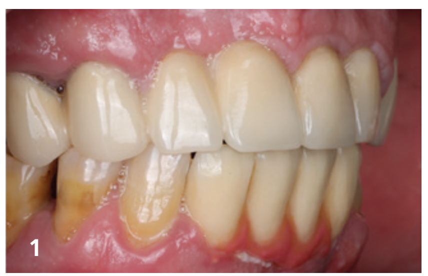
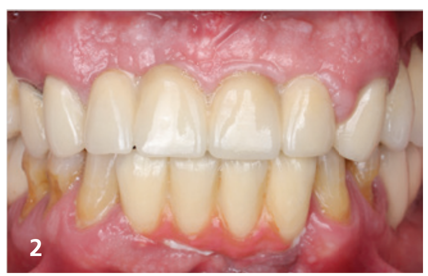
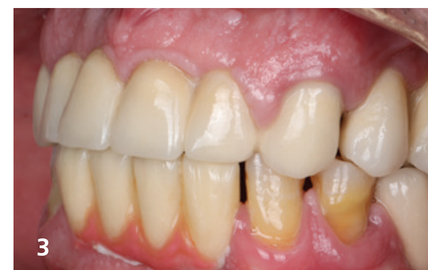




Fig. 1: Diagnostic right lateral view. – **Fig. 2:** Diagnostic frontal view. – **Fig. 3:** Diagnostic left lateral view.

posterior maxillary segments and a failing tooth-borne fixed dental prosthesis extending from 14 to 23, with bleeding on probing and cervical caries at 13 and 14. The mandibular arch presented no acute issues relevant to the maxillary treatment plan (Figs. 1–3).

CBCT demonstrated advanced vertical and horizontal bone loss in regions 16, 25 and 26, while the implant at 17 appeared radiographically stable. Considering the compromised dentition, the pattern of bone loss and the patient's refusal of removable temporisation, a prosthetically driven, immediately loaded maxillary full-arch implant-supported rehabilitation was indicated, provided that adequate primary stability could be achieved and standard clinical selection criteria fulfilled[2] (Figs. 4+5).

Digital planning: 3P concept and RTS solution integration

The 3P concept structures all treatment steps into three phases:

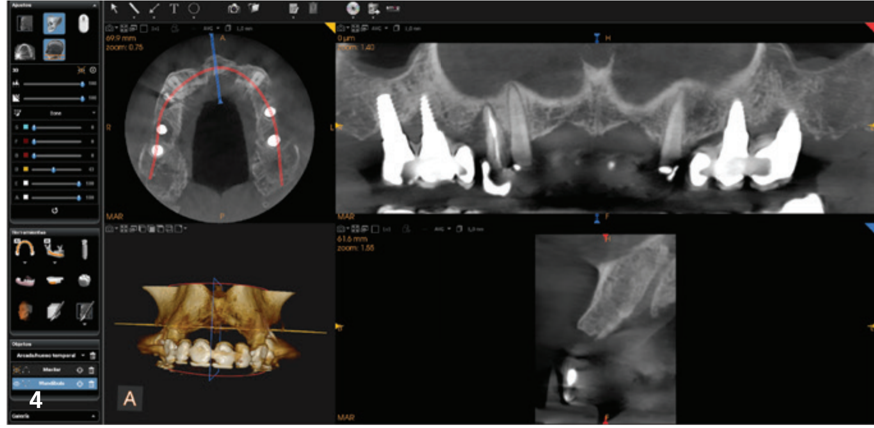
- Plan: diagnostic and prosthetically driven planning, combining CBCT data, photos, intraoral scans and a virtual wax-up to define ideal implant and prosthetic positions.[4–7]
- Print: chairside/laboratory fabrication, including 3D printing of surgical guides and milling or printing of provisional restorations.[4,5,10–12]
- Place: clinical execution of guided implant surgery and subsequent delivery, adjustment and follow-up of provisional and definitive prostheses.[6,7,10–12]

Within this framework, the RTS solution provides the prosthetic bridge between digital planning and immediate loading.[10–12] Starting from an intra-oral scan of the implants, the IOS file is imported into CAD software and specific RTS libraries are selected to design the provisional restoration, which is then exported for milling (typically in PMMA) or 3D printing. RTS offers two main design modalities:

1. Monobloc: the provisional framework is screwed directly onto multi-unit abutments without intermediate titanium abutments to be bonded.
2. Abutment-based: the framework incorporates internal housings for titanium temporary abutments that are cemented extra-orally and then screw-retained onto the multi-units.[10–12]

RTS libraries also include angulated screw-channel options on multi-units, allowing correction of unfavourable implant angulations and relocation of screw-access holes to more favourable aesthetic or functional positions.[10–12] This combination of the 3P concept with RTS establishes a continuous digital chain from prosthetically driven planning, through guide fabrication and provisional framework design, to chairside immediate loading in both full-arch and partial rehabilitations.[4–7,10–12]

All extra- and intra-oral photographs, CBCT data and diagnostic intra-oral scans were uploaded to the digital SmileCloud® platform (Straumann Group®). Using its 3D tooth library and dynamic smile-simulation modules, an aesthetic and functional pro-



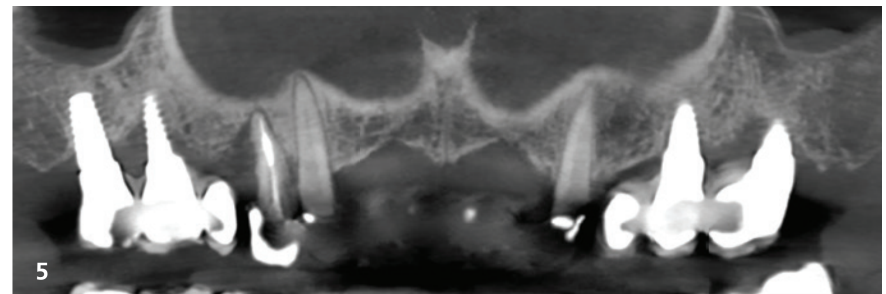


Fig. 4: CBCT of the initial situation. – **Fig. 5:** Detailed view of the maxillary arch.

posal was generated that reproduced the patient's existing restoration as closely as possible, in line with his request to maintain the same general appearance. This virtual set-up was used both to visualise the intended outcome and to communicate the treatment objectives to the patient. In parallel, the CBCT and diagnostic intra-oral scans were imported into the planning software and merged. The diagnostic IOS served as a virtual wax-up, again respecting the existing tooth form and smile line. By superimposing the planned tooth set-up on the radiographic data and using segmentation tools, relevant anatomical structures (maxillary sinus, nasal floor, residual ridges) were precisely outlined and correlated with the prosthetic design, allowing accurate three-dimensional assessment of the available bone and of the prosthetically oriented implant positions[4–7] (Figs. 6+7).

On this basis, a prosthetically driven surgery plan was established, with the specific aim of minimising implant placement in aesthetically critical areas and avoiding unfavourable screw-access channels or excessive angulations in the anterior region.[6,7,10–12] Six bone level implants were planned (Anthogyr Axiom BL®), together with preservation of the existing implant 17, to provide seven maxillary supports. The area 25–26 was considered the most critical due to the extent of bone loss; four implants were therefore planned in the second quadrant, including a "strategic" implant in position 27 to provide robust posterior support and built-in redundancy. All peri-implant defects were scheduled to be grafted with xenograft (XenoOss ®Plus) at the time of implant placement (Figs. 8+9).

RTS was selected for both clinical and laboratory reasons. Clinically, it allowed delivery of a fixed screw-retained provisional within two hours when printed and less than four hours when milled, in line with the patient's refusal of removable dentures.[2,10–12] In addition, the CAD design was generated as a direct transfer from the digital wax-up to the provisional prosthesis, helping to preserve the existing tooth shape and smile line.[4,5,10–12] From

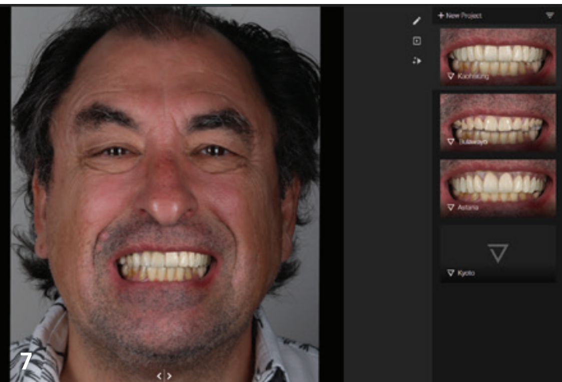
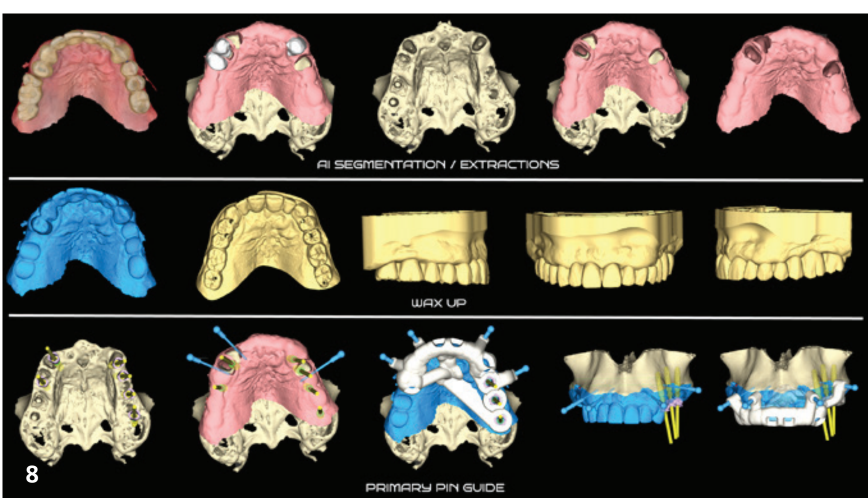


Fig. 6: Uploaded data for digital smile simulation. – **Fig. 7:** Smile design simulation.



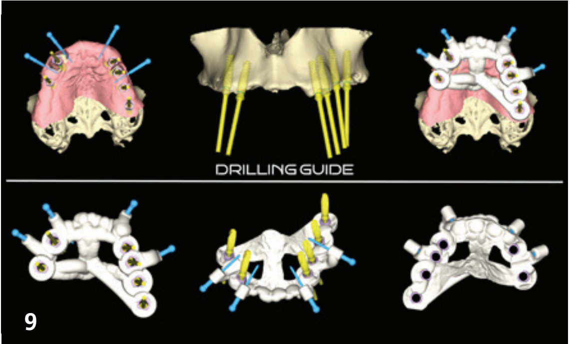


Fig. 8: Prosthetically driven implant planning. – **Fig. 9:** Digital surgical guide design.

the laboratory perspective, RTS offered a streamlined digital pathway: standardised monobloc and abutment-type libraries enabled model-less CAM fabrication of the provisional, while the specific internal geometry of the RTS receptacles allowed precise extra-oral cementation of titanium abutments when this option is chosen.[10–12] The definitive restoration could then be designed either by reusing the initial digital wax-up or by refining the CAD file after final digital impressions, maintaining or optimising pontic morphology and soft-tissue contours.

Surgical procedure

Local anaesthesia was administered across the maxillary arch using 4% articaine with epinephrine 1:100,000 via buccal and palatal infiltrations. The tooth-supported guide was positioned and used to prepare the sites for horizontal fixation pins. After pin placement, the guide was removed and all remaining maxillary teeth and failing implants were atraumatically extracted using a flapless approach. Extraction sockets were thoroughly debrided to eliminate granulation and inflamed tissues.

The mucosa-supported surgical guide was then seated and secured onto the previously placed fixation pins, with additional palatal support ensuring stable positioning. Fully guided osteotomies were performed using the Integral 4.2 system following the manufacturer's sequential drilling protocol. All six implants were placed under guided conditions and achieved insertion torques exceeding 40 Ncm.[6,7]

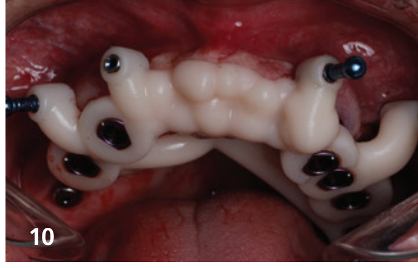
Following implant placement, the guide was removed and six 4.0 mm diameter and 2.5 mm height multi-unit abutments (OPMUN0-2) were connected to the implants and torqued to 25 Ncm in accordance with manufacturer recommendations. Peri-implant defects were grafted, and the operative field was then prepared for immediate digital impressions and RTS-based provisional prosthesis fabrication (Figs. 10+11).

Prosthetic workflow within the 3P concept and RTS solution

Immediately after surgery, six metal scanbodies (151-04-MDT) were connected to the multi-unit abutments and a healing cap was placed on implant 17. A full-arch digital impression was acquired with the intra-oral scanner using the full-arch protocol, which merges the pre-extraction reference scan with the post-operative scan of soft tissues and scanbodies. This approach has been shown to improve the trueness of full-arch implant impressions with intra-oral scanners, bringing their accuracy close to that of conventional techniques in many scenarios.[3] In this case, it ensured precise registration of implant positions, preservation of the planned vertical dimension and accurate transfer of occlusal relationships for the RTS temporary prosthesis design[3,4–7] (Fig. 12).

At the Plan → Print interface, the laboratory adapted the previously generated wax-up design to the definitive 3D implant positions. An access channel was incorporated at site 17 to allow intra-oral connection of a titanium provisional abutment, as this configuration is not natively available in the RTS digital library for that implant brand (Fig. 13).

The CAD file was then used in the milling phase to manufacture a full-arch provisional prosthesis milled from multilayer PMMA (Ivoclar®, A3 shade). When the "abutment" RTS libraries were selected, the software generated specific internal receptacles corresponding to the geometry of the titanium temporary cylinders (MUNC-100). Thanks to this pre-defined internal geometry, the cylinders could be extra-orally bonded to the PMMA framework in a model-less procedure using a dual-cure resin cement (VITA Adiva®), while maintaining alignment with the virtual design.[10–12] A 3D-printed resin model was nonetheless produced to verify passive fit



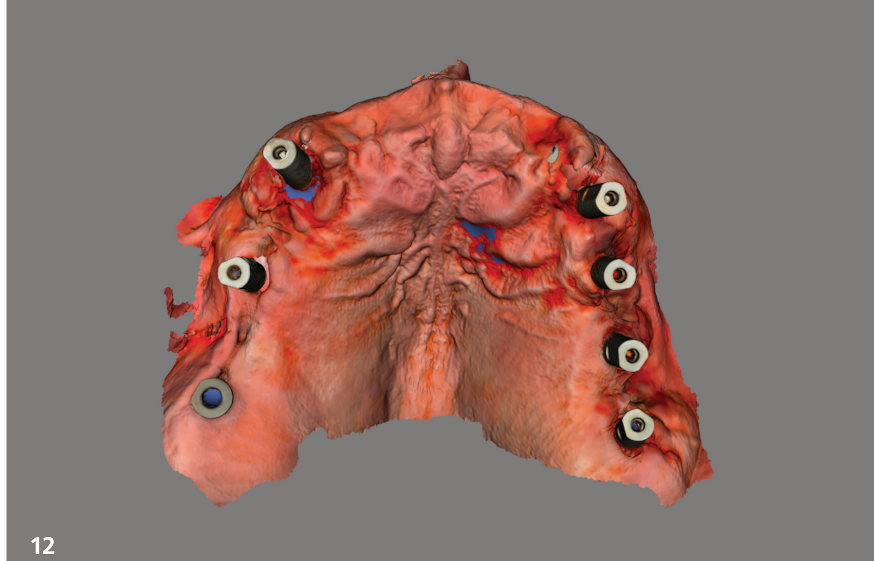


Fig. 10: Surgical guide in place for drilling. – **Fig. 11:** Xenograft used for guided bone regeneration (GBR). – **Fig. 12:** Intra-oral digital impression taken during surgery.

as an additional check. This combination of RTS receptacle design and CAD/CAM accuracy is what enables predictable model-less bonding within the RTS workflow[10–12] (Fig. 14).

At the end of the surgical appointment, healing abutments were placed and sutures were completed. The pre-operative medication regimen (amoxicillin, ibuprofen and 0.12% chlorhexidine rinses) was maintained.

At the 12-hour visit (Place phase), the patient was asymptomatic and only mild irritation was observed at the fixation-pin entry sites. Healing caps were removed, and a titanium provisional abutment for multi-unit was connected to implant 17; this abutment was then intra-orally bonded to the PMMA prosthesis in the area previously reserved in the CAD design. After finishing and polishing the bonded zone, the bridge was seated on the multi-unit abutments. Prosthetic screws were tightened in a cross pattern to perform a Sheffield test and verify passivity before applying the final torque of 15 Ncm. Achieving a passive framework is considered critical for immediate full-arch loading, as it minimises implant micromovement and reduces mechanical stress on the bone–implant interface.[6, 7, 10–12] Occlusion was evaluated in maximum intercuspation and adjusted to obtain stable bilateral contacts and group function in lateral excursions, ensuring controlled load distribution from day one[4–7, 10–12] (Fig. 15).

The patient received post-operative instructions and was scheduled for follow-up visits at one and three months. At the one-month review, peri-implant soft tissues appeared healthy and well adapted around the multi-unit abutments. The patient reported excellent comfort, normal masticatory function and high satisfaction with the immediate aesthetic result.

Postoperative follow-up and clinical outcomes

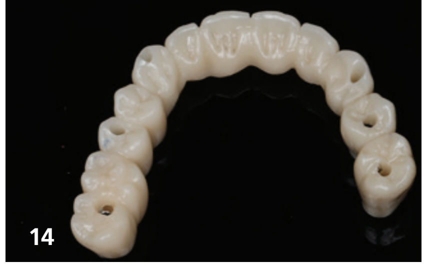
The patient was reviewed 15 days after surgery to assess early comfort, soft-tissue adaptation and the absence of temporomandibular joint symptoms. Subsequent visit at three months was planned to take a panoramic X-ray to control bone healing around implants, to monitor peri-implant tissue stability, to evaluate oral hygiene, and to verify occlusal contacts and reinforce maintenance protocols as required[2, 8, 9] (Fig. 17).

Throughout the follow-up period, peri-implant soft tissues demonstrated favourable healing, with no suppuration, no bleeding on probing and no plaque accumulation of clinical relevance. The maxillary provisional remained mechanically stable, with no incidents of screw loosening or prosthetic fracture.

Definitive prosthetic procedure

After a three-month healing period, the patient returned for definitive records. A new full-arch digital impression was obtained with the IOS using the same full-arch protocol. Metal multi-unit scanbodies were connected to all implants, and MedentiWings enablers were used in wide edentulous spans to shorten distances in between implants and improve overall scanning precision.[3] The impression captured implant positions together with peri-implant soft-tissue contours and the emergence profiles shaped by the RTS provisional (Figs. 18–20).

Because of library incompatibilities between the implant system (position 17) and the CAD software, a combined analogue–digital workflow was adopted. A digital master model was created and 3D-printed with digital replicas in place, incorporating an access channel for the analogue of implant 17. A passive metal verification framework was fabricated and clinically tested; once passive fit was confirmed, the analogue for implant 17 was picked up chairside and repositioned into the printed model through the dedicated channel. This produced a hybrid master model



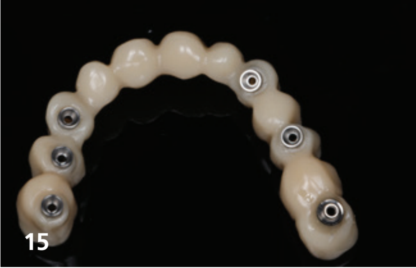


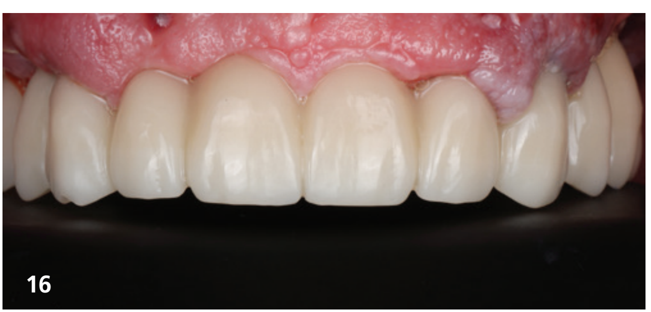
Fig. 13: CAD design of the temporary "Ready to smile" restoration. – **Fig. 14:** Occlusal view of the milled PMMA restoration. – **Fig. 15:** Intaglio view of the PMMA restoration with bonded Ti-bases.

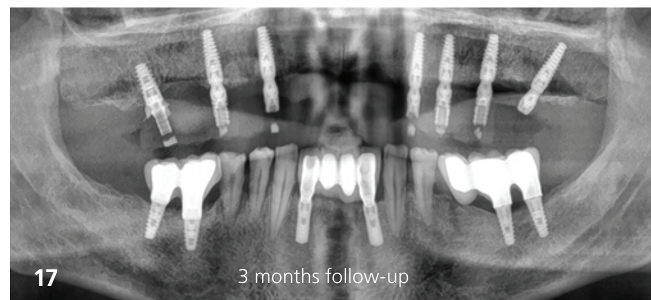
that incorporated all implants and could be used to verify passive fit and occlusion for the definitive restoration[6,7] (Figs. 21–23).

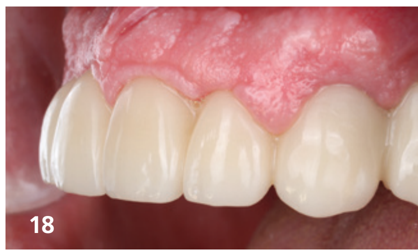
The final prosthesis was planned as a continuation of the RTS design. The technician could either reuse the original digital wax-up or refine the CAD file of the provisional based on the definitive scans, maintaining established pontic morphology and soft-tissue contours. A monolithic 3Y-TZP zirconia framework on cemented X-Base® abutments was selected, supported by evidence that zirconia-based FDPs show satisfactory medium-term survival and complication rates comparable to metal-ceramic alternatives.[13–15] The main reason for choosing Anthogyr X-Bases was their ease of bonding to the zirconia framework, ensuring anti-rotation stability, eliminating micromovements, providing a precise fit with the inner core of the framework, and enhancing cement retention thanks to their patented laser grip bonding surface.

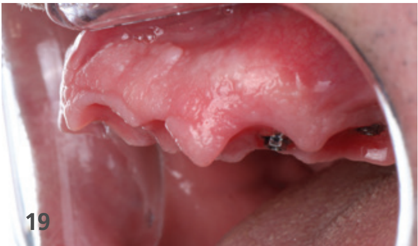
In the anterior segment, a controlled buccal cutback was created to allow limited veneering ceramic on a printed resin model support, while posterior areas remained fully monolithic for improved mechanical durability[13–15] (Figs. 24+25).

The completed zirconia prosthesis was seated and screw-retained on all multi-unit abutments. Screws were tightened in a cross pattern to reassess passivity, followed by final torque of 15 Ncm according to manufacturer recommendations.









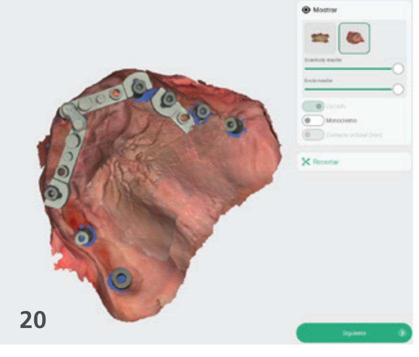
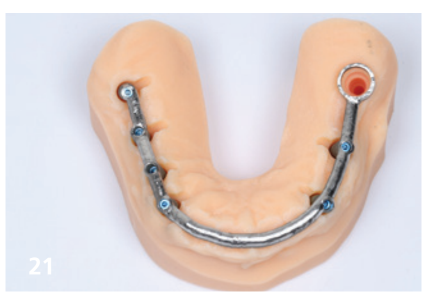
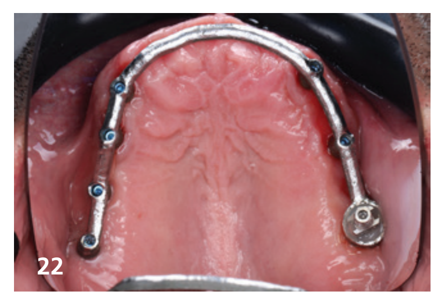


Fig. 16: Temporary restoration placed at the 12-hour follow-up visit. – **Fig. 17:** Radiograph at the three-month follow-up. – **Fig. 18:** Restoration at the three-month follow-up visit. – **Fig. 19:** Soft-tissue healing after three months. – **Fig. 20:** Final digital impression.





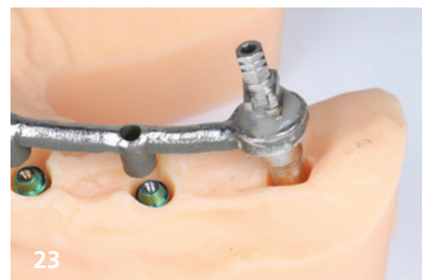
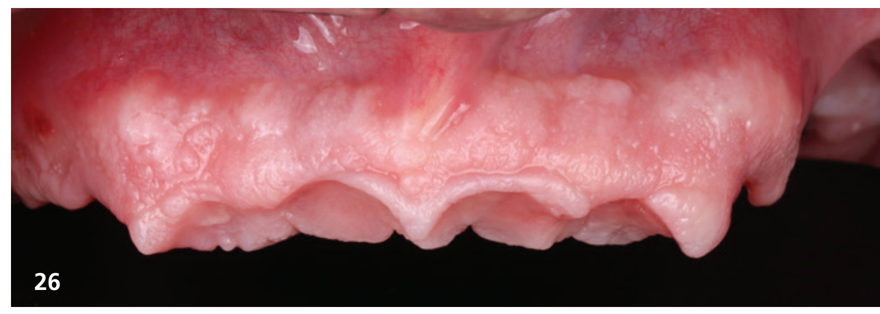
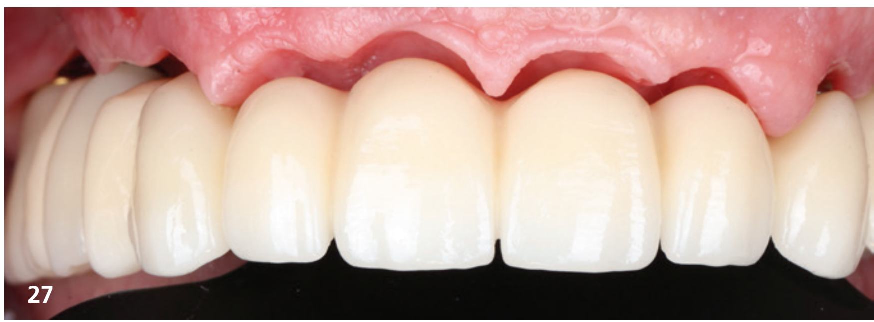


Fig. 21: Model prepared for the pick-up of implant site 17. – **Fig. 22:** Pick-up of implant position 17. – **Fig. 23:** Repositioning of the implant replica at site 17 in the model. – **Fig. 24:** Milled zirconia restoration before sintering. – **Fig. 25:** Final restoration after sintering.





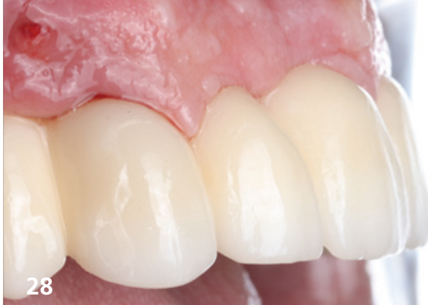


Fig. 26: Healed soft tissue.
Fig. 27: Insertion of the final restoration.
Fig. 28: Final lateral view.

Minor occlusal refinements were performed to optimise functional guidance. The patient reported good comfort and function with the definitive restoration, and peri-implant soft tissues appeared stable. Follow-up appointments were scheduled at three, six and 12 months to monitor soft-tissue health, hygiene, occlusion and radiographic bone levels. At approximately six months, a control radiograph was planned to document the post-healing bone baseline after biological-width stabilisation (Figs. 26–28).

The definitive restoration exhibited harmonious tooth proportions and an aesthetic integration consistent with the pre-existing smile.[13–15] Functionally, the patient reported marked improvement in masticatory efficiency, phonetics and overall comfort compared with the pre-operative condition. Soft-tissue contours around the implants remained stable, and occlusion was maintained with no occlusal adjustments at routine visits.[2, 4–7, 10–12]

Clinical summary and final considerations

This case demonstrates how a structured digital workflow anchored in prosthetically driven planning, guide assisted implant placement and same-day intra-oral digital impressions can support predictable immediate loading in full-arch rehabilitation.[4–7, 10–12] The favourable outcomes align with recent reports showing that fully digital full-arch protocols can improve treatment efficiency, enhance the transfer of virtual planning to surgery and yield high patient satisfaction when appropriate stability thresholds and case-selection criteria are respected.[2, 4–7, 10–12]

Consistent with current methodological reviews, the integration of CBCT-based planning, virtual wax-ups and CAD/CAM provisionalisation in this case contributed to reduced chairside time, streamlined laboratory communication and more controlled prosthetic workflows.[8, 9] The ability to capture implant geometry immediately after placement allowed rapid fabrication of a screw-retained provisional with clinically verified passivity, like other digitally prefabricated PMMA approaches for immediate loading.[10–12]

While the workflow proved effective here, further refinement is possible. Future improvements may include broader digital-library compatibility across implant systems to reduce the need for hybrid analogue–digital models, additional validation of digital impression accuracy over long edentulous spans and long-term studies evaluating peri-implant tissue stability around monolithic zirconia full-arch frameworks.[3, 8, 9, 13–15]

Continued research aimed at standardising fully digital full-arch protocols will help strengthen the predictability and reproducibility of such workflows across different clinical settings.[8, 9]

Overall, this case adds to the growing evidence supporting digitally driven, immediately loaded full-arch rehabilitation as a viable treatment modality when guided by careful planning, adequate primary stability and meticulous execution.[2, 4–7, 10–12]

References

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Metal-free rehabilitation of the posterior mandible using ceramic implants

Drs Mona Monzavi & Ayman Zraiqat, USA

Dental implant therapy is widely regarded as the gold standard for the replacement of missing teeth, with titanium implants demonstrating long-term success and predictability. However, increasing patient demand for metal-free alternatives, driven by aesthetic concerns, hypersensitivity, and personal preferences, has led to the development of ceramic implant systems, particularly zirconia-based implants.

Zirconia implants offer several advantages, including excellent biocompatibility, low plaque affinity, favourable soft-tissue response, and superior aesthetics due to their tooth-like colour.[1–3] Early-generation ceramic implants were predominantly one-piece systems, limiting prosthetic flexibility. More recently, two-piece zirconia implant systems, have been introduced, allowing screw-retained restorations and improved prosthetic versatility.[4]

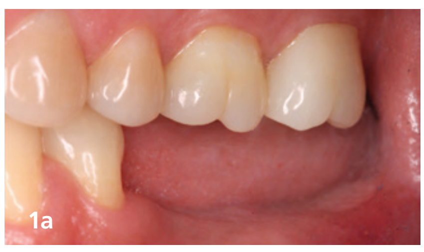
This report describes the rehabilitation of a posterior mandibular edentulous segment using Zeramex XT ceramic implants, with emphasis on surgical, prosthetic, and clinical outcomes.

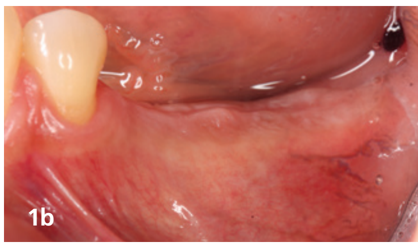
Case presentation

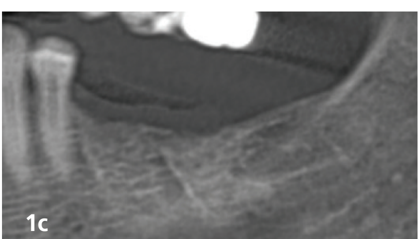
A 43-year-old female patient, with no relevant medical history and in good systemic health, presented for rehabilitation of the missing mandibular left posterior dentition at sites #18, #19, and #20. The patient expressed a clear preference for a completely metal-free treatment approach and therefore declined placement of titanium implants.

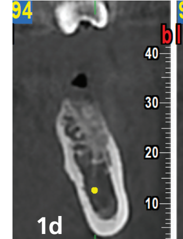
Preoperative assessment

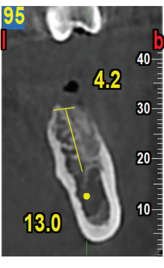
Clinical examination demonstrated an edentulous posterior mandibular segment

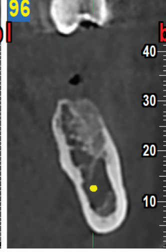


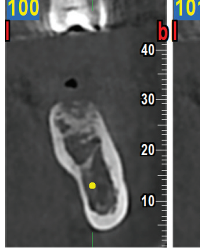


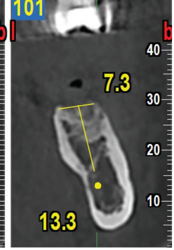


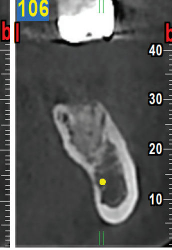


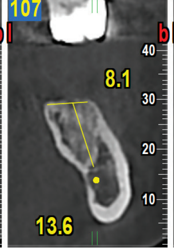


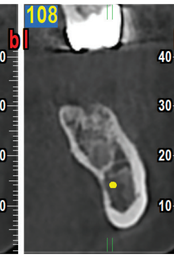


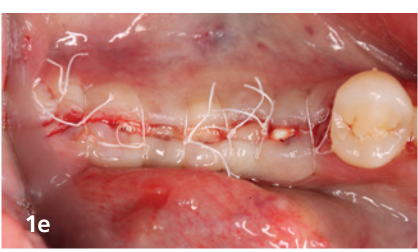


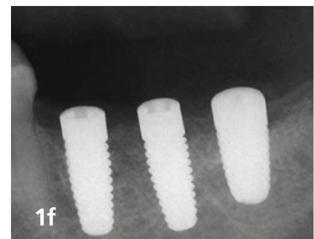












Figs. 1a–f: Preoperative assessment and surgical phase. Preoperative clinical views **(a+b)**. Preoperative cone-beam computed tomography (CBCT) image demonstrating adequate horizontal ridge width and vertical bone height for placement of regular-base (RB) and wide-base (WB) Zeramex® XT two-piece ceramic implants. **(c+d)**. Surgical placement of Zeramex® XT implants in sites #18, #19, and #20 **(e)**. Periapical radiograph obtained at the time of implant placement **(f)**.

corresponding to sites #18, #19, and #20 (Figs. 1a+b). The soft tissues appeared healthy, and no local contraindications to implant therapy were identified. A comprehensive radiographic evaluation was performed, including cone-beam computed tomography (CBCT), to assess the available bone volume and anatomical conditions at the planned implant sites. CBCT analysis demonstrated adequate horizontal ridge width and sufficient vertical bone height to accommodate placement of Zeramex® XT two-piece ceramic implants in the intended positions, including the use of regular-base (RB) and wide-base (WB) implant configurations as indicated by the local anatomy (Figs. 1c+d).

Based on the combined clinical and radiographic findings, a treatment plan was established for placement of three zirconia implants at sites #18, #19, and #20. In view of the patient's preference for a metal-free rehabilitation and the favourable local hard-tissue conditions, treatment with a ceramic implant-supported fixed prosthetic restoration was selected. Platelet-rich fibrin (PRF) was additionally prepared for intraoperative application as an adjunctive measure to support soft-tissue healing and promote regenerative healing events.

Surgical phase

Implant placement was performed according to standard surgical protocols. Three Zeramex® XT two-piece ceramic implants were inserted in the mandibular left posterior region at sites #18, #19, and #20 (Fig. 1e). Specifically, two regular-base implants, each measuring 10 mm in length, were placed at sites #19 and #20, whereas one wide-base implant, measuring 8 mm in length, was placed at site #18 in accordance with the available bone dimensions and prosthetically driven treatment planning.

All implants were positioned approximately 0.6 mm supracrestally. PRF was applied at the surgical sites to enhance soft-tissue healing and support local regenerative responses. Primary stability of approximately 35 Ncm was achieved for each of the three implants, indicating adequate initial mechanical stability at the time of placement. Cover screws were then placed, and the surgical site was closed with non-resorbable expanded polytetrafluoroethylene (e-PTFE) sutures to ensure stable wound adaptation and protection during submerged healing. A periapical radiograph obtained immediately after surgery confirmed appropriate implant positioning and angulation at all three sites (Fig. 1f).

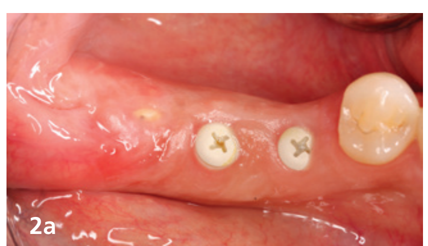
Healing and second-stage surgery

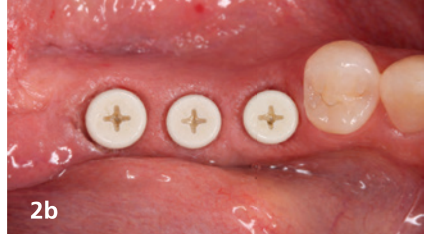
A submerged healing protocol was followed, and the implants were left to heal for four months. During this interval, healing proceeded uneventfully, with no reported biological or mechanical complications. At the four-month postoperative visit, clinical examination revealed favourable healing of the peri-implant tissues and healthy soft-tissue conditions in the treated area (Fig. 2a).

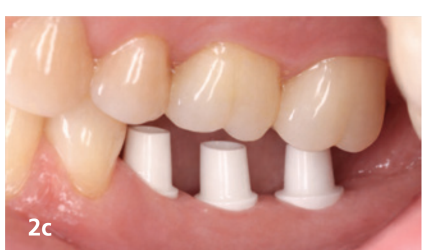
Second-stage surgery was then performed to uncover the implants. Zeramex® XT soft-tissue healing components, described as healing caps/gingiva formers, were placed at this stage to support soft-tissue contouring and maturation around the transmucosal portion of the future restorations (Fig. 2b). The peri-implant mucosa demonstrated a healthy appearance, with satisfactory tissue adaptation and no visible signs of inflammation, dehiscence, or adverse tissue response.

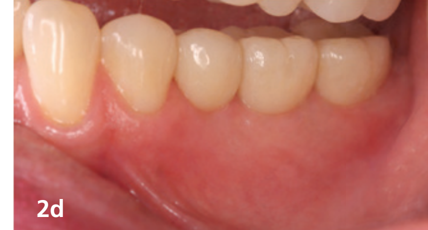
Prosthetic phase

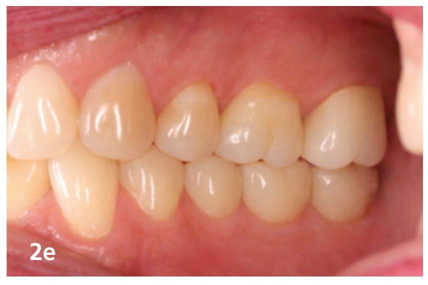
After a further four-week period of soft-tissue conditioning, the prosthetic phase was initiated. Ceramic abutments were placed on the implants and secured using the VICARBO® carbon fibre-reinforced

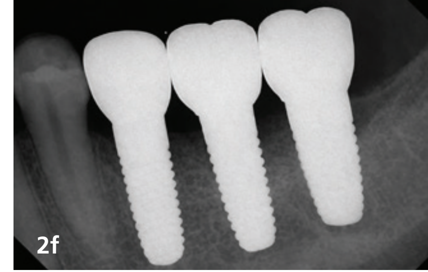












Figs. 2a–f: Healing, second-stage surgery, and prosthetic phase. Clinical view at four months postoperatively following placement of two-piece Zeramex® XT ceramic implants **(a)**. Implant uncovering with placement of Zeramex® XT soft-tissue healing components (healing caps/gingiva formers) **(b)**. Placement of ceramic abutments secured with the VICARBO® carbon fibre-reinforced PEEK screw, with intra-oral adjustment to achieve adequate prosthetic clearance **(c)**. Cementation of definitive all-ceramic implant-supported crowns **(d+e)**. Final periapical radiograph demonstrating the completed implant-supported restoration **(f)**.

polyetheretherketone (PEEK) screw. The screws were tightened to a torque value of 25 Ncm in accordance with the restorative protocol.

Following abutment placement, intraoral adjustment was carried out to obtain adequate prosthetic clearance and optimise the alignment of the restorative components for the definitive prosthetic reconstruction (Fig. 2c).

Subsequently, final restorative procedures were completed, and definitive all-ceramic implant-supported crowns were fabricated and cemented (Figs. 2d+e). The restorations demonstrated appropriate fit, alignment, and integration within the occlusal scheme. A final periapical radiograph confirmed completion of the implant-supported prosthetic rehabilitation and showed satisfactory seating of the prosthetic components at all treated sites (Fig. 2f).

Clinical outcome

At completion of treatment, the patient had been successfully rehabilitated with a fully metal-free implant-supported restoration replacing the missing mandibular posterior teeth at sites #18, #19, and #20. The clinical and radiographic findings demonstrated stable implant placement, favorable peri-implant soft-tissue conditions, and successful delivery of the definitive all-ceramic prosthetic reconstruction.

The treatment sequence progressed uneventfully from preoperative assessment through surgical placement, healing, second-stage surgery, and definitive prosthetic restoration.

Final restoration and outcome

Definitive all-ceramic crowns were fabricated and cemented (Figs. 2d+e). Clinical outcomes included:

- Favourable soft-tissue integration
- Well-defined emergence profile
- Stable zone of keratinised gingiva
- Functional occlusion
- High aesthetic integration

Radiographic evaluation confirmed appropriate implant positioning and osseointegration. Approximately 1 mm of physiologic crestal bone remodeling was observed at the junction of the polished collar and threaded implant surface at four months post-placement.

Discussion

This case highlights the clinical applicability of two-piece zirconia implant systems for posterior rehabilitation. Historically, ceramic implants were limited by one-piece designs, which restricted prosthetic flexibility and increased technique sensitivity.[5] The introduction of systems such as Zeramex XT addresses these limitations through a screw-retained, two-piece configuration.

Zirconia demonstrates excellent biocompatibility and has been associated with reduced bacterial adhesion and inflammatory response compared to titanium.[2,6] These properties contribute to favourable peri-implant soft-tissue outcomes, as observed in this case. Additionally, the intrinsic colour of zirconia minimises the risk of peri-implant discolouration, particularly in patients with thin soft-tissue biotypes.[7]

The use of carbon fibre-reinforced PEEK screws allows for a completely metal-free restorative complex while maintaining adequate mechanical stability.[4] Furthermore, alumina-toughened zirconia (ATZ), utilised in contemporary ceramic implants, exhibits enhanced flexural strength, fracture toughness, and resistance to crack propagation. This improves structural reliability under functional loading conditions.[8–10]

The adjunctive use of PRF may have further supported soft-tissue healing and early osseointegration, consistent with previous reports demonstrating improved angiogenesis and wound healing with autologous platelet concentrates.[11]

Overall, this case demonstrates that ceramic implants provide a predictable metal-free alternative with favourable biological and prosthetic outcomes.

Conclusion

Zeramex XT ceramic implants represent a viable and predictable metal-free alternative to titanium implant systems. In this case, successful rehabilitation of a posterior mandibular edentulous segment was achieved, demonstrating excellent soft-tissue integration, stable peri-implant conditions, and favourable functional outcomes.

The two-piece, screw-retained design enhances prosthetic flexibility, retrievability, and long-term maintenance. Further long-term studies are required to validate the durability and clinical success of these systems in broader patient populations.

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OSSTEM Europe Meeting 2026 Prague

Pathways from complications to predictable success

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OSSTEM is excited to announce the OSSTEM Europe Meeting 2026, taking on 13 and 14 November 2026 at the Prague Congress Center in the Czech Republic. Under the theme "Mastering the unexpected: Pathways from complications to predictable success," the event will gather clinicians from across Europe to focus on real-world challenges in implant dentistry—and how to transform them into reliable and repeatable success.

A programme built for every clinician

This year's meeting brings a fresh, comprehensive look at the full treatment journey. Dedicated sessions in dental surgery, prosthodontics and periodontology will guide participants from diagnosis and surgical execution to long-term restorative and periodontal care. Through lectures, case discussions and interactive panels, clinicians will explore complication management, decision-making under pressure and evidence-based strategies for predictable outcomes.

Hands-on learning & meaningful connections

Pre-congress parallel hands-on courses on 12 November 2026 offer opportunities to strengthen skills in an intimate learning environment. Additional details about topics, speakers and registration will be shared soon via OSSTEM Europe channels.

Participants will also enjoy a gala dinner at the historic Žofín Palace, creating the perfect atmosphere for networking and international exchange.

In collaboration with the OIC community

The OSSTEM Europe Meeting 2026 is organised together with the OIC Scientific Community. As Prof. Ieva Gendvilienė, OIC Board Member and Chair of the Communication Committee, highlights:

"Taking valuable insights from our previous meeting, I truly believe we've created a programme that brings the whole treatment journey together—from surgical challenges and complication management to prosthodontic planning and full-arch solutions. With fresh topics and an exciting mix of new voices on stage, I'm confident that the 2026 meeting will deliver practical, progressive education that resonates with every clinician."

Join OSSTEM in Prague

OSSTEM invites dental surgeons, prosthodontists, periodontists, dental technicians and all professionals involved in implant dentistry to come together, exchange experiences and embrace new pathways toward predictable clinical success.

Stay tuned for updates via our social media channels and website.

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EFP starts three-year international campaign

Gum Health Day 2026

What do healthy gums have to do with cardiovascular health, diabetes, and everyday well-being? More than most people realise. These connections highlight why oral health should no longer be seen as separate from overall health. The mouth is the window on the body, says the European Federation of Periodontology (EFP).

In 2026, Gum Health Day is celebrated on 12 May, and is the launch of a new global campaign designed to place oral health at the centre of the whole health conversation, empowering people to take control of their well-being.

This initiative by the European Federation of Periodontology, led by its communication & engagement committee, marks the start of a three-year international campaign under the motto "Gum Health Day: Empowering Lives." It aims to raise awareness of the importance of healthy gums, encourage early action at the first signs of problems, and make prevention a key part of everyday life.

"Gum diseases are among the most common health conditions worldwide. They often begin silently, with symptoms such as bleeding gums or persistent bad breath that are easy to ignore," explains Prof. Spyros Vassilopoulos, EFP past president and chair of the federation's communication & engagement committee.

Left untreated, they can lead to tooth loss but have also been linked to broader health issues. Yet they are largely preventable with good daily care and regular dental check-ups.

Severe gum disease is a major global health issue, affecting more than one billion people worldwide. According to the World Health Organization, oral diseases, including periodontitis, affect approximately 3.7 billion people globally.

Gum disease may affect much more than your mouth

There is growing scientific evidence which suggests that gum disease is linked to several serious health conditions. Studies have found connections between periodontitis and cardiovascular diseases such as heart attacks, heart failure, and stroke.

The impact is also significant for people with diabetes. Those who have both diabetes and gum disease are more likely to develop severe complications affecting the eyes and kidneys and face a higher risk of death compared with people with diabetes alone. Gum disease can also affect women differently from men, par-

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ticularly during hormonal changes such as puberty, pregnancy, and menopause. Some studies have also suggested a possible association between periodontitis and breast cancer, and research has also found a link between gum disease and erectile dysfunction.

"Healthy gums support quality of life, confidence, and long-term health, yet gum diseases are still widely underestimated," explains Prof. Vassilopoulos. "They influence how people feel, live, and engage with everyday life. The Gum Health Day campaign helps raise awareness and make the link of good gum health to overall well-being."

For more information about the campaign and how to get involved, visit efp.org/gumhealthday.

Source: PR of EFP on 21 April 2026

About the European Federation of Periodontology

The EFP is a global non-profit organisation with a European core, that promotes periodontal science and awareness of gum health among oral health professionals, other medical professionals, policy makers and the public. Founded in 1991, the EFP brings together 47 national societies, representing more than 18,000 oral health professionals and researchers from six continents. The EFP's vision is "Better oral health for all."

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Looking back at the International Osteology Symposium Vienna 2026

Vienna emerged as a hub for the future of oral regeneration

From 23 to 25 April Vienna became the international center of attention for oral regeneration. Bringing together more than 90 renowned experts and over 3,000 attendees from across the globe, the International Osteology Symposium offered a prestigious platform for scientific exchange, advanced clinical education, and fresh perspectives on the future of the field.

From the very start, the event made clear what sets this symposium apart: its rare ability to bridge scientific excellence with real-world clinical relevance. At the heart of the programme were the latest research findings, evidence-based insights, and, above all, their practical significance for day-to-day clinical work. The symposium did not simply present cutting-edge science at the highest level; it also translated that knowledge into meaningful applications clinicians could readily bring back into practice.

That same commitment to applicability was reflected in the hands-on programme. Across 18 practical workshops, participants were introduced to both well-established and emerging surgical techniques in a format designed to be structured, accessible, and immediately useful. These sessions gave attendees the chance not only to observe methods in detail, but also to strengthen and refine their own clinical skills. Just as importantly, the symposium fostered an interdisciplinary perspective, encouraging participants to look beyond the boundaries of their individual specialties and reinforcing a broader, more holistic approach to patient care.

Dialogue between clinicians and industry

Industry innovation was also a prominent theme throughout the meeting, underscoring the close relationship between scientific progress and commercial development in the field of implant dentistry. The symposium provided an ideal international platform for companies to present their latest products, technological advances, and strategic innovations to a highly specialised professional audience. In this way, the event not only facilitated academic exchange but also highlighted how industry is actively responding to the evolving clinical and aesthetic demands of modern practice.

Among the companies drawing particular attention was Geistlich which celebrated 175 years of company history and used the occasion to introduce its enhanced collagen membrane, Geistlich Bio-Gide® Forte, to the European market. This product launch represented more than the debut of a single innovation; it formed part of a wider global strategy aimed at expanding and strengthening the company's regenerative portfolio. In addi-

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tion to new product development, this broader expansion includes the integration of emerging technologies, the formation of strategic partnerships, and carefully targeted acquisitions designed to reinforce Geistlich's position within the field of regenerative dentistry and biomaterials.

SDS likewise took advantage of the symposium's international visibility to present an early preview of its forthcoming SDS Aesthetic and Anatomic Series. These new implant designs were developed in direct response to the increasing aesthetic and anatomical expectations that now shape contemporary implantology. As clinicians face more complex cases and higher patient demands—particularly in visually sensitive areas—the need for implant systems that combine functional reliability with refined aesthetic adaptability has become ever more important.

The new SDS series expands the company's existing implant portfolio by introducing additional implant shapes and geometries specifically intended for cases in which aesthetic considerations are especially critical. By offering greater flexibility in treatment planning and implant selection, the series aims to help clinicians better adapt to individual anatomical conditions while achieving more harmonious and natural-looking soft-tissue outcomes. Importantly, these innovations have been designed to integrate seamlessly into established surgical and prosthetic protocols, allowing practitioners to benefit from enhanced aesthetic possibilities without requiring substantial changes to their familiar workflows.

Experts spotlight the future of oral tissue regeneration

One of the core features of the symposium was its strong scientific programme, particularly the state-of-the-art lectures and case-based discussions. These sessions focused on current developments, novel treatment approaches, and the latest scientific advances in oral tissue regeneration. At the same time, the event made it clear that this is a discipline very much focused on what lies ahead. Technological innovation and emerging trends featured prominently throughout the programme, underscoring the speed and dynamism with which the field continues to evolve.

Beyond the lectures and workshops, it was the international exchange of ideas that gave the event much of its distinctive atmosphere. The symposium created numerous opportunities for participants to engage with leading voices in the specialty and to deepen conversations with colleagues from around the world. Interactive formats such as panel discussions and debates contributed to a lively and open culture of dialogue. Clinical challenges were discussed in depth, but so too were broader questions shaping the direction of the profession as a whole.

Vienna provides the perfect backdrop for a forward-looking symposium

The setting itself also played an important role in the symposium's appeal. With its rich cultural heritage and international character, Vienna proved an ideal host city for a meeting that brought together scientific rigor, personal interaction, and professional inspiration in such a compelling way. Even before the event began, scientific co-chair Lisa Heitz-Mayfield had noted that few things are more inspiring than an outstanding professional conference when it comes to bringing fresh ideas back into everyday clinical practice. Over the course of the symposium, that sentiment was powerfully affirmed.

In retrospect, the International Osteology Symposium Vienna 2026 was far more than a conventional professional congress. It stood out as a comprehensive educational experience—one that successfully combined scientific discovery, clinical application, international networking, and a forward-looking vision for the future of oral regeneration.

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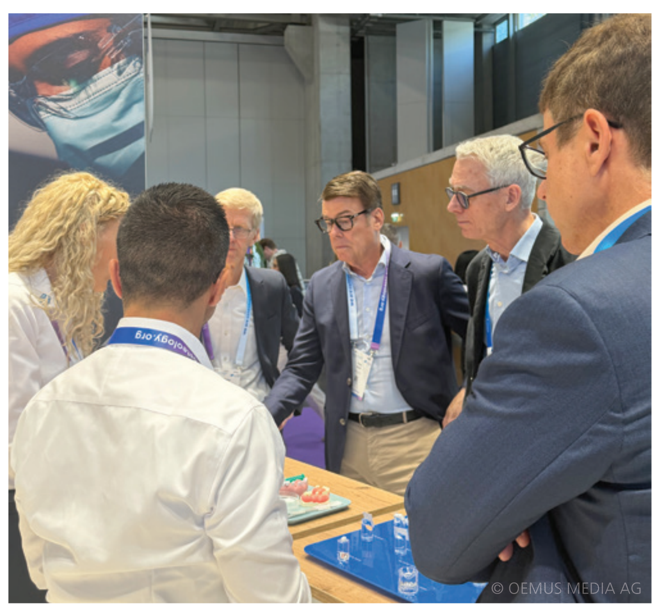
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Register here

ADEE Annual Meeting 2026

Evidence and empathy as the focus in oral health professionals' education

Budapest will become a meeting point for the future of dental education when the Association for Dental Education in Europe invites delegates from 24 to 28 August to its Annual Meeting 2026. Set against the backdrop of one of Europe's most elegant and vibrant capitals, the event promises to bring together educators, researchers, clinicians and academic leaders for several days of exchange, reflection and inspiration.

With Semmelweis University prominently welcoming participants, the gathering already carries the sense of a host city deeply connected to the history and development of health sciences.

The Budapest meeting is expected to offer far more than a conventional academic conference. As outlined on the ADEE event pages, the programme is designed to combine scholarly discussion, practical presentation formats and valuable networking opportunities in a setting that encourages dialogue across institutions and borders. Delegates will be able to engage with the latest thinking in oral health professionals' education while also taking part in social events, informal conversations and pre-meeting workshops that add further depth to the experience.

Two themes in particular stand out as focal points of the 2026 meeting: empathy and evidence in oral health professionals' education. These subjects reflect the wider direction of contemporary dental education, where scientific rigor and human-centred care are increasingly seen not as separate priorities, but as complementary foundations of excellent training. By placing empathy and evidence side by side, the meeting signals its intention to explore both the intellectual and interpersonal dimensions of educating the next generation of oral health professionals.

The event will also showcase a broad range of delegate contributions. Posters, themed presentations, FREEStage sessions and selected oral presentations are all part of the planned format, giving participants multiple ways to share ideas, research findings and educational innovation. This variety suggests a lively and dynamic atmosphere, where established experts and emerging voices alike can contribute to the conversation. The ADEE meeting has long been known as a platform for collaboration and professional exchange, and Budapest 2026 appears set to continue that tradition.

For attendees, the experience is likely to extend well beyond the lecture hall. They will also have access to the ADEE 2026 app, intended to support planning, networking and engagement with the wider programme. Practical resources such as presentation templates, poster formats and branded meeting materials are already being made available, underlining the event's polished and organised character.

There is also a strong sense of anticipation surrounding Budapest itself. As a city known for its architectural grandeur, cultural richness and welcoming atmosphere, it provides an appealing destination for a meeting dedicated to ideas, education and European collaboration. The combination of a historic academic environment and a forward-looking professional agenda gives the upcoming event particular appeal.

In many ways, ADEE Annual Meeting 2026 is shaping up to be not only a key date in the dental education calendar, but also a chance to reflect on where the field is heading. With its emphasis on dialogue, innovation and community, the Budapest gathering is poised to offer a meaningful forum for everyone committed to advancing oral health education in Europe and beyond.

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SDS Swiss Dental Solutions

Pre-launch of the new SDS Aesthetic Series

SDS Swiss Dental Solutions, headquartered in Kreuzlingen, Switzerland, is a global developer and manufacturer of ceramic dental implant systems. The company focuses exclusively on metal-free implant solutions and is recognised for its standardised, biomaterial driven approach to implant design, production, and clinical application. SDS systems are used by clinicians worldwide and are supported by continuous research, product development, and education initiatives.

SDS Swiss Dental Solutions was present at this year's Osteology Symposium in Vienna, where the company provided insights into its latest developments in ceramic implantology and presented selected innovations from its portfolio.

As part of its participation at Osteology, SDS introduced a pre launch preview of the new SDS Aesthetic and Anatomic Series—implant designs developed to address the growing aesthetic and anatomical demands in modern implant dentistry. The series expands the existing product portfolio with additional implant shapes and geometries designed to support natural soft-tissue outcomes in aesthetically sensitive indications, while maintaining a consistent surgical and prosthetic workflow.

The Aesthetic Series builds on SDS' long standing design principles, including optimised macro and micro geometry and the exclusive use of zirconium dioxide ceramic across all implant components. The new series complements the established SDS implant systems and aims to provide clinicians with additional options for challenging clinical situations requiring a high level of aesthetic precision.

During the Osteology meeting, customers had the opportunity to evaluate the new products in a hands-on session conducted by Dr Thore Santel. Additionally, within the Corporate Forum, Prof. Beuer and Dr Ilian Dargel presented current scientific evidence on ceramic dental implants, including the outcomes of the first Consensus Conference in Nice in 2025.

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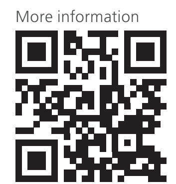

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Why choose digital impression taking with the ICX-P5?

Digital workflows have long been standard in modern dentistry. With the ICX-P5, you benefit from a high-performance scanner solution that perfectly combines precision, efficiency and cost-effectiveness.

The scanner enables quick and convenient capture of the intra-oral situation—entirely without traditional impression material. The data is processed digitally immediately and can be transferred directly to the dental laboratory.

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Digital scans reduce sources of error, save time and improve collaboration with your dental laboratory. At the same time, your patients benefit from a significantly more comfortable treatment experience without impression trays and the gag reflex.

The ICX-P5 supports open data formats and integrates seamlessly into existing CAD/CAM workflows.

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ICX-BAMBOO PRO: Maximum mobility for your ICX-P5 intra-oral scanner

With the ICX-BAMBOO PRO, you can transform your ICX-P5 into a fully mobile scanning solution. The system combines powerful hardware, a large touchscreen and an integrated high-performance battery—for maximum flexibility in everyday practice.

The ICX-BAMBOO PRO allows you to use the intra-oral scanner independently of fixed workstations. Thanks to the integrated battery and wireless mobility, you can use the scanner flexibly between treatment rooms.

This ensures more efficient processes, shorter distances and optimal integration of digital workflows into your practice.

The benefits at a glance

- **Ultra-fast scans**
  A complete dental arch can be digitally captured in under a minute.
- **Open system**
  Compatible with STL and PLY—for maximum flexibility in the digital workflow.
- **Precise results**
  High scanning accuracy for reliable results with crowns, bridges and implant restorations.
- **Intuitive operation**
  Simply start and scan—without complex settings or lengthy training.
- **Cost-effective**
  Attractive value for money and no ongoing licence costs.
- **More efficient workflows in your practice**
  With the ICX-P5, you can seamlessly integrate digital impressions into your daily practice routine.

ICX-FREE—wireless scanning freedom

For even greater freedom of movement, the ICX-FREE is also available.

The wireless scanner impresses with its ergonomic handling and particularly flexible use in the treatment room.

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- Maximum freedom of movement whilst scanning

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	Event	Location	Date	Details/Registration
6/2026	Implant Solutions World Summit	Gothenburg Sweden	25–27 June 2026	dentsplysirona.com
9/2026	EAO Congess	Lisbon Portugal	24–26 September 2026	congress.eao.org
10/2026	ICOI/ADIA World	Las Vegas USA	1–3 October 2026	icoi.world/upcoming-events
11/2026	OSSTEM Europe Meeting 2026	Prague Czech Republic	13/14 November 2026	www.osstem.de/registration2.php
11/2026	ADF Paris	Paris France	24–28 November 2026	adfcongres.com/en

EDI Journal – Information for authors

EDI Journal – the interdisciplinary journal for prosthetic dental implantology is aimed at dentists and technicians interested in prosthetics implantology. All contributions submitted should be focused on this aspect in content and form. Suggested contributions may include:

- Original scientific research
- Case studies
- Product studies
- Overviews

Manuscript submission
Submissions should be made in digital form. Original articles will be considered for publication only on the condition that they have not been published elsewhere in part or in whole and are not simultaneously under consideration elsewhere.

Manuscripts
Pages should be numbered consecutively, starting with the cover page. The cover page should include the title of the manuscript and the name and degree for all authors. Also included should be the full postal address, telephone number, and e-mail address of the contact author.
Manuscripts can be organised in a manner that best fits the specific goals of the article, but should always include an introductory section, the body of the article and a conclusion.

Illustrations and tables
Each article should contain a minimum of 20 and a maximum of 50 pictures, except in unusual circumstances. Our publishing house attaches great importance to high quality illustrations. All illustrations should be numbered, have a caption and be mentioned in the text.
The photos should have a size of 10x15 cm, the image or graphic files must have a resolution of 300dpi. TIFF, EPS and JPG file formats are suitable. Radiographs, charts, graphs, and drawn figures are also accepted.
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References
Each article should contain a minimum of 10 and a maximum of 30 references, except in unusual circumstances. Citations in the body of the text should be made in numerical order. The reference list should be typed on a separate sheet and should provide complete bibliographical information in the format exemplified below:
[1] Albrektsson, T.: A multicenter report on osseointegrated oral implants. J Prosthet Dent 1988; 60, 75–82.
[2] Hildebrand, H. F., Veron, Chr., Martin, P.: Nickel, chromium, cobalt dental alloys and allergic reactions: an overview. Biomaterials 10, 545–548 (1989).

Review process
Manuscripts will be reviewed by three members of the editorial board. Authors are not informed of the identity of the reviewers and reviewers are not provided with the identity of the author. The review cycle will be completed within 60 days. Publication is expected within nine months.

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(For information on BDIZ EDI Directory of Implant Dentists see overleaf)

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