



# CAD/CAM Solutions

High-end Products for dental practices  
and dental laboratories





# Zfx

## THE GLOBAL LEADER IN DIGITAL DENTISTRY

- 10 Zfx Milling Centers
- 110 Zfx Authorized Milling Labs
- > 1,200 Scanners in the market
- > 250,000 Milling Units p. a.





# Zfx Dental

A company of Zimmer Biomet

## Cooperation: Zfx and Zimmer Biomet join forces

With Zfx as its CAD/CAM partner, Zimmer Biomet is set to expand its global presence in digital dentistry by providing complete dental solutions – from oral tissue regeneration, dental implants and abutments to CAD/CAM-produced dental prostheses.

The partnership combines the global presence and the high quality standard of Zimmer Biomet with the expertise and technological know-how of Zfx to provide an extensive and evolving digital portfolio to dentists and dental technicians!

## Your benefits

- *Modern production technologies for high-quality prosthetic work*
- *Modular system design to suit everyone's needs*
- *Easy component integration*
- *Innovative communication and management platform for smooth operations*
- *Genuine implant components for a precise fit between implant and abutment*

## Practical training programs

*Zfx and Zimmer Biomet each offer a variety of training and practical programs. The various training and continuing education programs are specifically designed to enhance practice skills and are tailored to relate to goals and issues based on each target group. For further information on our continuing education programs please visit our websites:*

[www.zimmerbiometdental.com](http://www.zimmerbiometdental.com)  
[www.zfx-dental.com](http://www.zfx-dental.com)



NEW

# Zfx™ Digital Workflow

## Modular solutions with innovative technologies

### Innovative solutions for individual needs

Intraoral and desktop scanners, software, milling machine? Zfx offers them all. They can be purchased as a complete package or as single components, and are easily integrated into existing work environments. This is possible due to a modular software design, open interfaces and aligned procedures from scanning to manufacturing.

### Authorized partners

By purchasing a Zfx system component for the dental practice and participating in the associated training course, the user becomes authorized by Zfx as a Digital company. He will be listed in the online database and gets access to the Zfx™ Manager, which enables him to exchange data and to communicate with partner practices within the network and with Zfx milling centers.



### Easy Perfect symbiosis!

Proven EOS (e.g. Zfx™ Evolution plus<sup>+</sup>) and IOS systems (e.g. iTero<sup>®</sup>, 3M™) combined with functional components such as the Encode Healing Abutments ensure easy integration and maximum flexibility.



# Fast

## Model to milling in the blink of an eye

The Zfx™ CAD software offers almost limitless possibilities with a wide range of indications – the post-processing of the automatically generated designs is kept to a minimum. Numerous software add-ons, such as the Zfx™ Encode® Converter for decrypting BellaTek® Healing Abutments promise a simple, efficient way to final restoration.



## A solution you can count on!

Zimmer Biomet's GenTek™ components not only promise maximum quality, they also convince with trend-setting technologies. With the Zfx™ Inhouse5x a perfect match for inlab manufactured dentures – Zimmer Biomet certified!

NEW

# Zfx™ Manager 2.0

Communication in perfection

## Connecting team members and technologies

The Zfx™ Manager 2.0 is the beating heart of all digital procedures within the Zfx™ Digital Workflow. The platform facilitates communication and data sharing between all parties involved in a specific treatment. Provided that software solutions with open interfaces are used, it also enables them to control and monitor the complete CAD/CAM procedure.



OPEN  
CONNECTIVITY

ORDER TRACKING

DIGITAL  
LAB

DIGITAL  
DENTIST

Zfx™  
Manager  
2.0

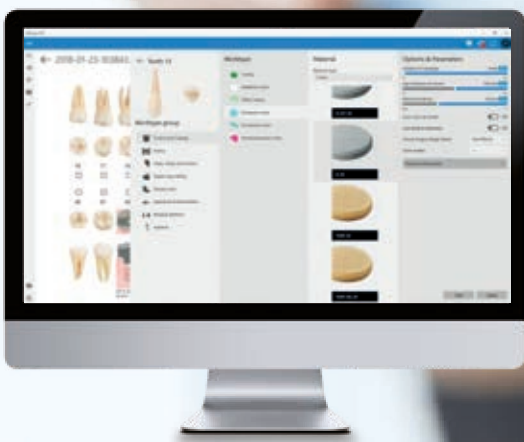
iTero  
3M

IOS CONNECTION

TEAM-BUILDING

MILLING  
LAB





INTUITIVE  
USER INTERFACE

ERP CONNECTIVITY

MILLING  
CENTER

CLOUD SOLUTIONS

CAD/CAM MANAGEMENT



## Your benefits

- Communication platform with team-building functionality
- Project planning and order creation
- ERP connectivity and automatic cost calculation and statistical evaluations
- Intuitive user Interface
- Cloud solution with optional data backup
- CAD/CAM Management with integrated IOS Connection (iTero®, True Definition)
- Open connectivity for competitive CAD Software such as Dental Wings, 3Shape and Exocad
- Encode Converter Communication
- Production monitoring and order tracking

## Zfx™ Manager 2.0 Packages

### Zfx™ Manager LIGHT

- Included in all Zfx CAD/CAM packages
- Easy project sharing up to 1 GB
- Order & Contact management
- ...

### Zfx™ Manager PREMIUM

- All Light functionalities
- 1 GB backup storage
- Additional backup option up to 100 GB
- Statistical evaluations
- 3Shape Project Management
- ...





# Two concepts, one target: Perfectly fitting implant prosthetics

**Intra oral scanners represent, in many cases, a real alternative towards traditional impression taking techniques even in the field of implantology.**

An intraoral scanbody, compatible with the applicable implant system is necessary in order to record implant positions exactly with an intra oral scanner. These components are available from Zfx for Zimmer Biomet (GenTek™) and most of the popular implant systems. The scanbody is fixed onto the implant and an optical impression is carried out by a scanner (such as iTero®), which enables the data output in STL format. The computer-aided design and fabrication of an abutment and crown can be carried out based on this virtual impression. This results in a significant reduction of clinical appointments in relation to a traditional workflow.

Two concepts are outlined for this digital workflow which greatly increases patient comfort and insures the ability to optimise soft tissue conditions.



Picture: iTero®

## In the Zfx workflow integrated systems

- Align Tech iTero®
- 3Shape Trios® – coming soon
- Zfx™ Manager import:  
all open STL data



## IOS components from Zfx



Zfx™ IOS scanbodies (two sizes – 4 and 7 mm) are available for implant systems from Zimmer Biomet, Camlog, Nobel Biocare, Straumann and many more.

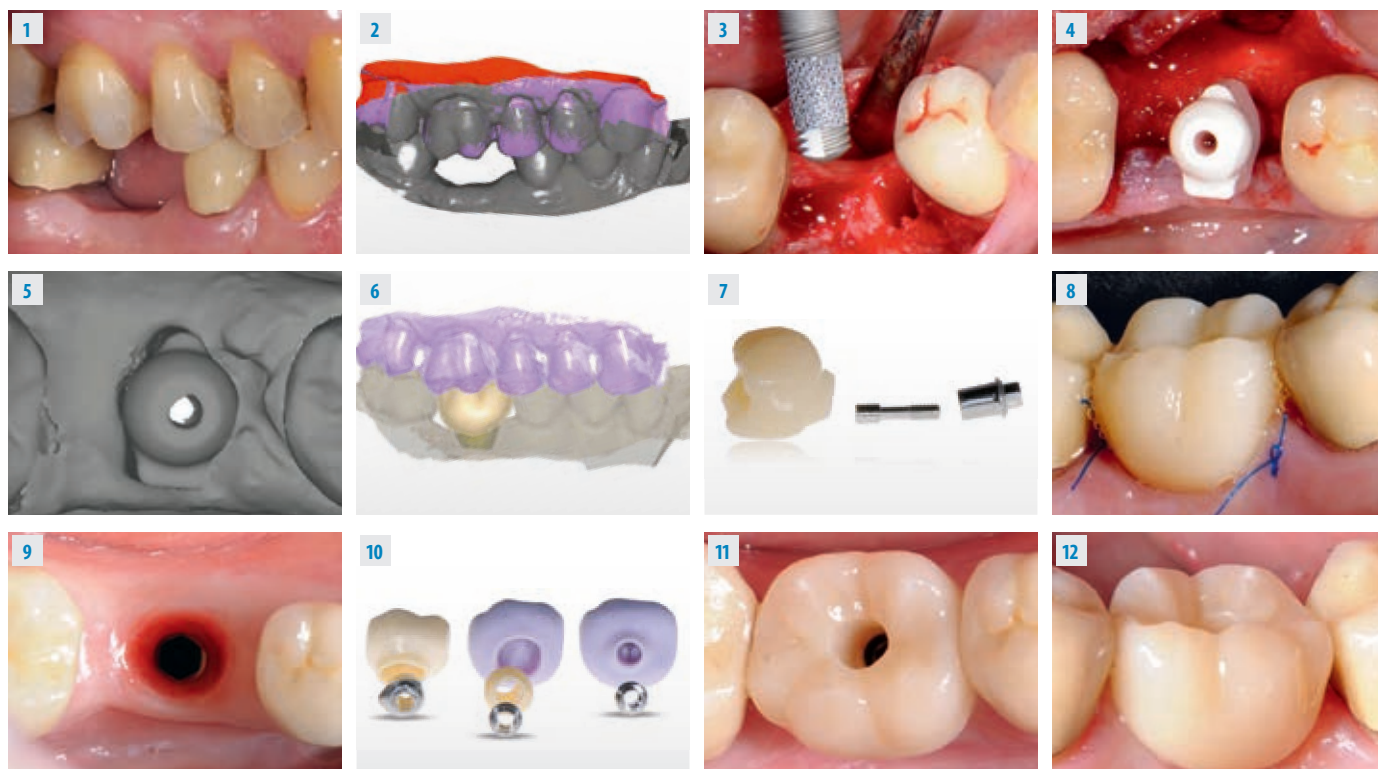
Zfx™ Encode® Healing Abutments: The BellaTek® Encode® Gingiva former is serving as impression post / scanbody and healing cap at the same time and thus reduces the number of working steps in the practice.

# Success formula for the fabrication of implant prosthetics

## The Munich Implant Concept (MIC)

The Munich implant concept describes the delivery of a CAD/CAM-manufactured screw-retained crown in two appointments. The basis of the procedure's development is to minimize loss of hard and soft tissue that can be

caused by repeated manipulation of the soft tissues. Furthermore it also provides an efficient workflow, practicable for daily use.



**1.** Pre-surgical situation: edentulous space in the 46 area **2.** Pre-op digital view after intra-oral scanning with the Zfx™ IntraScan **3.** Insertion of the Zimmer Trabecular Metal Implant **4.** Scan body (digital impression post) seated to record the implant position **5.** Digital view of the scan body recording **6.** Aggregate data sets from "Pre-op scan" and "Implant scan" with virtual design of the long-term temporary restoration **7.** Milled long-term PMMA temporary restoration before bonding with the titanium base **8.** One week after the implant exposure and the insertion of the long-term temporary restoration, prior to suture removal **9.** Emergence profile after removal of the long-term temporary (3 months), before integration of the definitive restoration **10.** Various prosthetic options for the definitive restoration **11.** Delivery of the screw-retained lithium disilicate crown (e.max CAD) **12.** One year post-op.

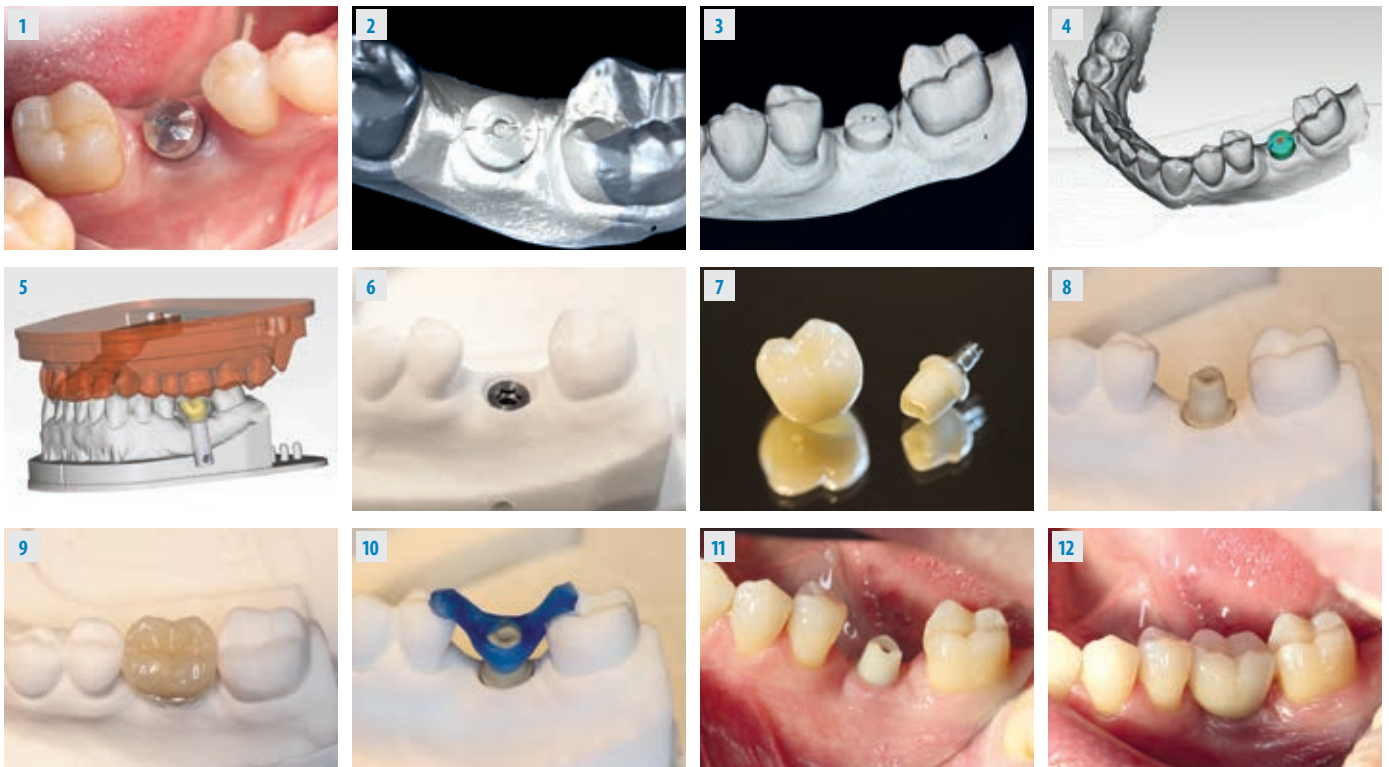




## The Encode Concept

The patented BellaTek® Encode® impression system of Zimmer Biomet offers a gingiva former, serving as scanbody at the same time. Thus, frequent Abutment changes are prevented and working steps in the practice are reduced. This digital impression is suitable for the transmission of the implant position, orientation and height.

After data transmission to a Zfx partner laboratory, the abutment and crown are designed through the use of a special software feature (Zfx™ Encode® Converter). The manufacturing is carried out at a Zfx Milling Center or in an authorized milling lab. Only a single abutment change is done within the complete workflow.



**1.** BellaTek® Encode® Gingiva former on an implant in Region 36 **2.** Intra oral scan of the situation on the Intra-oral scanner's screen **3.** STL-Data of the created 3D model, based on the digital impression **4.** Automatic decoding of 3D information for the implant type -integrated on the gingiva former defining the implant diameter and its' length such as for the shaping of the emergence profile **5.** Computer-aided construction of the abutment **6.** Physical model with integrated implant analog **7.** Crown from zirconium dioxide and ZrO<sub>2</sub> Abutment with titanium base manufactured at the Zfx™ Milling Centre **8.** Abutment on the model **9.** Crown on the model **10.** Abutment with integration support from light-curing plastic on model **11.** Abutment on situ **12.** Crown in patient's mouth, direct after integration



★ ★ ★  
**THE DENTAL  
SCAN  
CHAMPION**





# Zfx™ Evolution plus

## The new digital plus

**The “Zfx™ Evolution plus”, a next-generation desktop scanner with many innovative features. The successful symbiosis of functionality, precision and aesthetics.**

The innovative “open scan technology” is the basis of the new design. The scanner operates without a door, offering proficiency through the open and compact architecture. The space requirement is small and the day-to-day work-flow is simplified. Like its' predecessor, the “Zfx™ Evolution plus” utilizes the proven stripe light technology. The scanning speed (“Quick Scan”) is also improved. Due to an optimization of the image processing algorithms, the computation time of the scanner has been reduced to 30 percent.

A forward-looking feature is the “Ready for 3D-Printing” tool. The scanner generates a standard STL file that is compatible with additive manufacturing. The cylindrical scanning area of 140×80 mm enables a high volume accuracy (less than 9 µm) and therefore less records per scan are necessary. This so-called “Full Scan” improves not only the speed, but also the accuracy even with large cases. Time-consuming rescans are virtually eliminated.



### Highlights

- *Measuring accuracy less than 9 µm in the solid!*
- *Open-Scan-Technology: open and compact architecture (without a door)*
- *Quick Scan: 30% faster scanning speed through optimization of image processing algorithms*
- *Ready for 3D Printing: Compatible STL-data for additive manufacturing*
- *Recording of 12 single segments (dies) at the same time*
- *Quick, precise scanning of large objects*
- *Color Camera: high resolution and realistic color reproduction (2+1 technology)*
- *Texture Mapping: Recognition of lines drawn, which are editable as cSpline (mathematical function) in the CAD Software*
- *LED GreenLight Technology*



Accurate surface scanning with a measuring accuracy\* of less than 9 µm in the solid is possible with the Zfx™ Evolution plus scanner.

\* Measurement according to the VDI test procedure

# The Zfx™ Evolution plus

Because precision and functionality counts!



Even full-arch models for the construction of complex and large bridge frameworks – up to 14 units – can be digitized with the scanner.

**The accuracy of the Zfx™ Evolution plus means that the basic requirement for the design of complex restorations is achieved: The exact reproduction of the model situation.**

The models are scanned by placing them on the positioning unit (Zfx™ Synchronizer) inside the scanner, either for top and bottom jaw separately or both articulated together. When the scanning process is started, a total of 128 pairs of lines are projected onto the model surface with a green LED light source. At the same time, the model is moved in various directions on the rotating and swivelling positioning unit to enable the scanner's two cameras with CCD chips to capture all the relevant surface points.

## Articulator systems

Amongst others, the Zfx™ Evolution plus is compatible with the Artex® articulator system from Amann Girrbach, the SAM® from SAM Präzisionstechnik, the Protar® from KaVo, Stratos® from Ivoclar Vivadent, Panadent® from the company Panadent, PS 1 Plaster from Zirkonzahn and References SL from Gamma Dental.

The Zfx™ Synchronizer enables the exact transfer of articulated models into the scanner.

- Artex®
- SAM®
- Protar®
- Stratos®
- Panadent®
- Denar® Mark 330
- PS 1 Plaster
- References SL







The two-piece Zfx™ Scanbodies for multiple usage without any deficit of accuracy are produced with an innovative code system, that enables the automatic recognition of the implant type and prevents application errors. Thus, in combination with the own-developed torque wrench for the Zfx™ Evolution plus, an accuracy is ensured of

< 5 μm

The Zfx™ Evolution plus enables a measuring accuracy (VDI test procedure) in the solid of

< 9 μm

PROCESS  
ACCURACY  
< 20 μm



The industrial manufacturing with 5-axis simultaneous machining achieves an accuracy of

< 5 μm

NEW

# Zfx™ CAD-Software

The right package for every user



## Your benefits

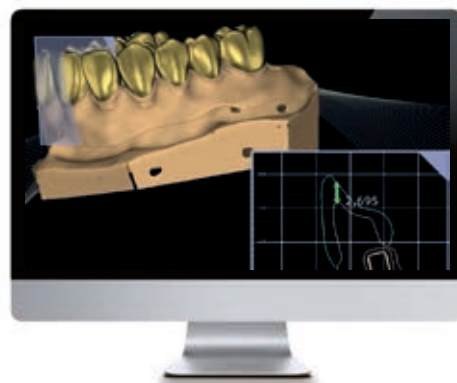
- Easy operation via menu assistant
- Zfx dental software makes it possible to design individual crowns and bridges in any span width
- Virtual articulator: Artex CN
- Many other features for the generation of technical CAD designs, e.g. inlays, attachments, Maryland bridges and telescopic crowns
- 5-axis milling strategies and templates for the different materials and indications are integrated in the software
- CAD design files are automatically prepared for CAM processing and the indication and material selection are transmitted to the CAM production software.
- All Zfx™ and GenTek™ Abutment libraries are stored in the system

**The Zfx™ CAD software supplied with the scanner can be integrated smoothly into the laboratory. Nearly unlimited possibilities ...**

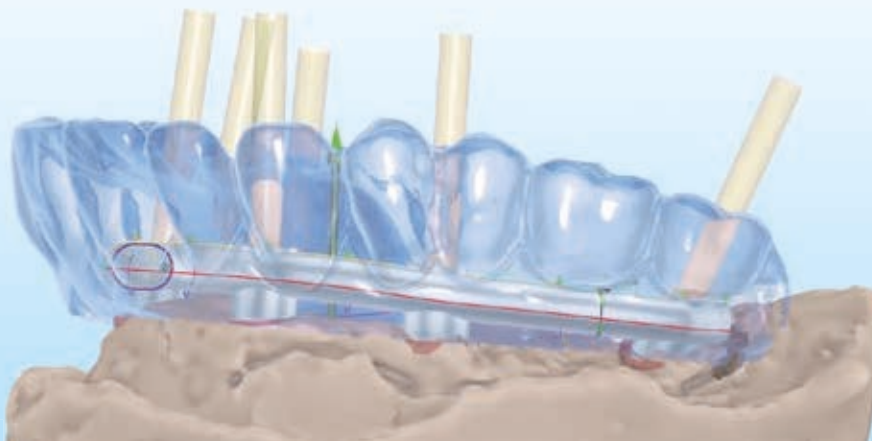
There are almost no limits for the user when carrying out the virtual design with the Zfx™ CAD software. Integrated within the software are a database of tooth shapes and a library of connector geometries. Even though the processes are automated, manual modifications can be made at any time, and the planned restorations can be individually fashioned using free-form tools for example.

Anatomic designs with optional ceramic reduction for: crowns, bridges, inlays, telescopic crowns, Maryland bridges, implant bridges, abutments, wax-ups and attachments. The design data enable high-precision 5-axis simultaneous machining in the milling centre or inlab .

The scanner is available including basic software which enables fully anatomical restorations as well as anatomically reduced frameworks to be constructed. The range of indications to be realized comprises veneers, inlays, onlays and individual crowns as well as Maryland bridges and bridges with several links.







## New additional software modules



### Upgrade: Zfx™ DICOM Viewer

For the visualization and storage of DICOM data (e.g. surgical templates).



### Upgrade: Zfx™ Converter for Encode Healing Abutments

Software-module intended for the decoding of 3D information of BellaTek® Encode® Gingiva-former from Zimmer Biomet and for the construction of individual Encode® Abutments.

free\*



### Upgrade: Zfx™ Jaw Motion Import

Enables the import of jaw movement measurement data from jaw registration systems such as the JMA system from Zebris.



### Upgrade: Zfx™ Partial Framework

The digital solution for designing high-quality, removable model cast prostheses.



### Upgrade: Zfx™ Smile Design

Provides a simple solution for aesthetic planning with predictable results. Combine patient photos with contour lines and 3D situations.



### Upgrade: Zfx™ Navigator with Guide Creator

Enables dental laboratories, dentists, implant specialists and surgeons maximum flexibility regarding implant planning and template design.

## Additional software modules – Upgrades at a glance

- Zfx™ Multi-Die
- Zfx™ Bite-Splint
- Zfx™ Abutment Designer
- Zfx™ DICOM Viewer
- Zfx™ Virtual Articulator
- Zfx™ Bar Designer
- Zfx™ Provisional Crown & Bridges
- Zfx™ True-Smile
- Zfx™ Converter for Encode Healing Abutments
- Zfx™ Digital-intraModel
- Zfx™ The Art of Shape
- Zfx™ Baltic Denture System<sup>BD</sup> Creator® PLUS
- Zfx™ Tooth library "ZRS" by Manfred Wiedmann
- Zfx™ Partial Framework
- Zfx™ Jaw Motion Import
- Zfx™ Smile Design
- Zfx™ Navigator with Guide Creator



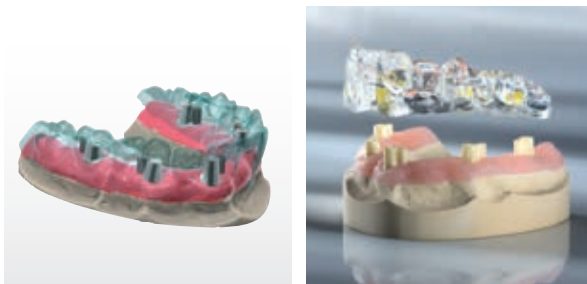
\* Lab can download Zfx Converter for free and free decoding when a GenTek Restoration is used.

# Nearly unlimited possibilities in computer-aided manufacturing of high-quality restorations

**Attachments, implant abutments, screw-retained bridges and bars can also be designed virtually depending on the version of the Zfx™ CAD software.**

There are almost no limits for the user when carrying out the virtual design with the Zfx™ CAD software. Integrated within the software are a database of tooth shapes and a library of connector geometries. Even though the processes are automated, manual modifications can be made at any time, and the planned restorations can be individually fashioned using free-form tools for example.

Abutment attachment  
for removable restorations



Shear force distributor / attachment

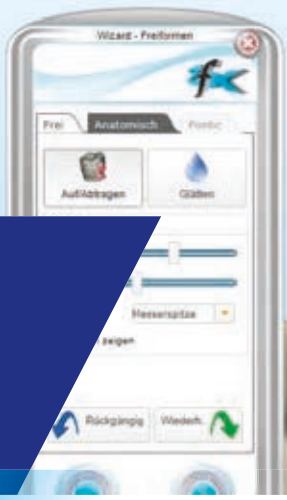


Bars with direct screw retention

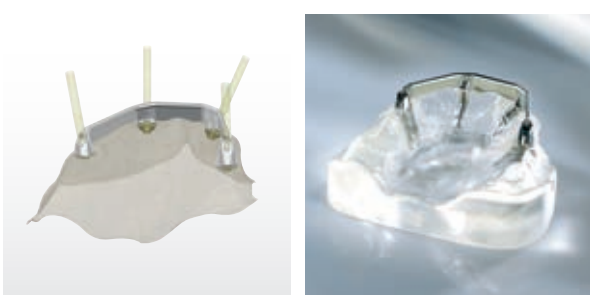


Dolder bar

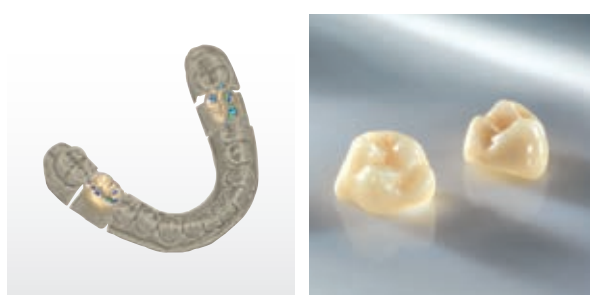




Hader bar



Monolithic crowns in translucent zirconium dioxide



Individual abutments Ivoclar e.max/all-ceramic



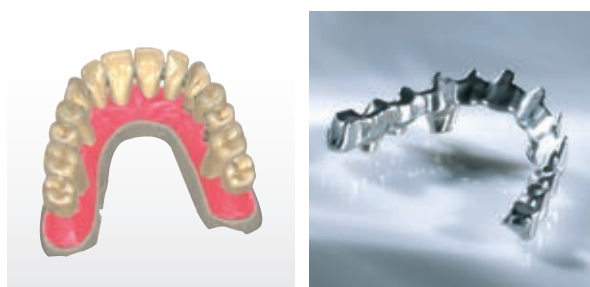
Hybrid constructions



Telescopes



Zfx™ Implant bridges and bars





# GenTek™ Restorative Components

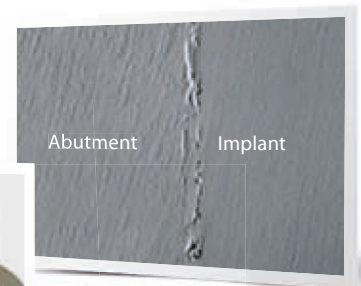
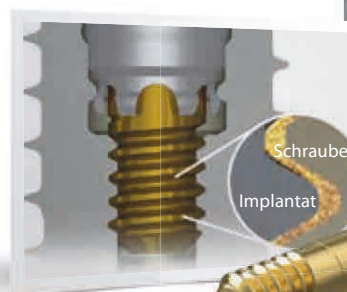
A solution you can count on



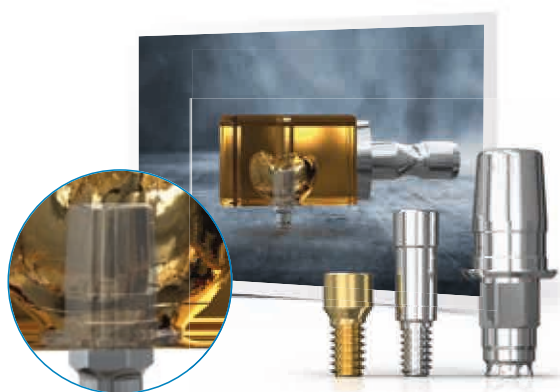
Premium implants deserve premium prosthetic components. For long-term clinical success, it is essential that the interface between the implant and abutment are designed to work together. This is the only way to ensure a robust and stable interface that delivers the long-term aesthetic and physical integrity that patients demand.

The GenTek™ Restorative Components are the solution for anyone who uses genuine Zimmer Biomet Dental implants. As part of an open digital workflow, the genuine connection Ti-Bases and Pre-milled Abutment Blanks ensure the highest product quality and a precise fit through the integration of proven Zimmer Biomet Dental technologies. GenTek™ Restorative Components are available for Zimmer Biomet Dental implant systems Certain®, External Hex, TSV™/Trabecular Metal™ and Eztetic®.

**SureSeal® Technology:** Provides superior seal integrity through the Implant-Abutment Junction. This is achieved with the combination of the proprietary Gold-Tite® Screw, Certain® Internal Connection and precision manufacturing.



**Friction-Fit® Abutment:** SEM at 150X magnification displays the mechanical interlock in the hexagonal engagement area between the flats of the implant and abutment.



GenTek™ Ti-Base compatible with Sirona CEREC Blocks

## Zfx™ GenTek™ Ti-Base

GenTek™ Ti-Bases are available with genuine connections for the following Zimmer Biomet Dental implant systems: Certain®, External Hex, TSV™/Trabecular Metal™ and Eztetic™. A genuine connection Ti-Base provides the performance you expect through Zimmer Biomet Dental's proven Friction Fit and SureSeal™ technologies when mated with a Zimmer Biomet Dental implant.

**exocad**

**3shape**

**dental wings**



**FREE DOWNLOAD**

Download the Zfx™ Restorative Libraries for free at [www.zfx-dental.com](http://www.zfx-dental.com)



**Zfx™ GenTek™ Scanbodies**

The scan is the basis of every CAD/CAM restoration. Fitting perfectly, thanks to a genuine connection, GenTek™ Scanbodies lay the foundation for a highly precise digitization of the real implant position, whether acquired with an intraoral scanner or a desktop scanner.



**Zfx™ GenTek™ Digital Scan Analogs**

The GenTek™ Digital Scan Analogs, featuring proprietary anti-rotation functionality, is a first of its kind 3-in-1 digital analog:

- As digital analogs in 3D printed models
- As a scan body, allowing for direct scanning of a traditional patient impression eliminating the need for stone models\*
- As a conventional analogs used in a stone model

The Zfx™ GenTek™ Digital Scan Analogs feature a genuine connection, replicating the position and orientation of the implant and leading to a more accurate fit and design of the restoration. A placement tool is also available, enabling the analog to be installed with ease and accuracy.

\*feature only available for Zfx™ Evolution Scanner



**Zfx™ GenTek™ Titanium Pre-milled Abutment Blank**

The Zfx™ GenTek™ Titanium Pre-milled Abutment Blank enable dental technicians to produce one-piece customized titanium abutments in their own laboratory without compromising connection quality and restoration performance. GenTek™ Titanium Pre-milled Abutment Blanks are available for the following Zimmer Biomet Dental implant systems: Certain®, External Hex, TSV™/Trabecular Metal™ and Eztetic™.



GenTek™ Titanium Pre-milled Abutment Blank are compatible with Medentika® holders. (CAM update required!)

Zfx™ Pre-milled Abutment Blank Holder, Standard and Zfx™ Pre-milled Abutment Blank Adapter for Glass Ceramic Holder.

# Zfx™ System Components

Implant-supported construction with different implant systems of compatible elements

**Apart from GenTek™ Genuine Components, Zfx offers a huge number of construction components for the production of implant abutments, bars and screw-retained bridges which are 100% compatible with the most commonly used implant systems.**

The connector geometries which ensure compatibility with the implant system in use (e.g. from manufacturers like Bredent, Camlog, Dentsply Sirona Implants, Nobel Biocare and Straumann) is deposited in the Zfx™ CAD Software.

In order to design the desired substructure, the user simply selects the implant used and the appropriate connector type is automatically imported into the software, which generates a design proposal on its basis. The user may modify and approve the design before the complete data set is sent to the milling center together with information about the titanium base to be selected. In the milling center, the component is manufactured. Implant abutments are available with screwed or glued titanium base.

exocad 3shape  dental wings 



#### FREE DOWNLOAD

Download the Zfx™ Restorative Libraries for free at [www.zfx-dental.com](http://www.zfx-dental.com)

## Zfx™ construction components



Titanium bases with rotation protection (Regular Design and / or Small Design)



Titanium bases without rotation protection (Regular Design and / or Small Design)



Multi-Unit titanium bases



Bridge screws for titanium, cobalt-chromium and zirconium constructions





## Zfx compatible implant systems and types

Implant manufacturer	implant systems			
<b>ZIMMER BIOMET</b>	Conical®	Certain®	IOL®	Low Profile®
	External Hex®	Eztetic Implant®	Tapered Screw-Vent®	Shoulder Abutment®
	SwissPlus®	Tapered Abutment®		
<b>ANTHOGYR</b>	Axiom®	MultiUnit®		
<b>BIOTECH DENTAL</b>	Conical abutment®	Kontakt®		
<b>BIOHORIZONS</b>	Internal®			
<b>BRENT</b>	SKY uni.cone / SKY fast and fixed®	SKY®		
<b>CAMLOG</b>	Screw Line®	VARIO SR®		
<b>DENTIUM</b>	Superline & Implantium®			
<b>DENTSPLY IMPLANTS (ASTRATECH)</b>	EV®	UniAbutment®		
<b>DENTSPLY IMPLANTS</b>	Ossesospeed®	Multi-Purpose®	Frialit-Xive®	
<b>GLOBAL D.</b>	Angled conical®	In-Kone®	Straight conical®	Twinkon®
<b>MEGAGEN</b>	AnyOne®	AnyRidge®	EZ Plus®	RescueInternal®
<b>MICRODENT</b>	Trylogic®			
<b>MIS</b>	Internal Hex®	Multi-Unit®		
<b>NOBEL BIO CARE</b>	Active®	Brånemark®	Multi-unit®	Replace®
<b>OSSTEM</b>	GS & TS®			
<b>P-I</b>	Amplified®	Conical Abutment®	External Hexagon®	Morse Taper®
<b>SERF</b>	Multi DIE®	MUA TRWD®		
<b>STRAUMANN INSTITUT</b>	Bone Level®	Multi-Base®	NNC®	Octa® (External Octagon)
	SynOcta® Cementable	SynOcta®		
<b>SWEDEN &amp; MARTINA</b>	Global®	Outlink2®	Premium Kohno®	
<b>THOMMEN MEDICAL</b>	SPI®			



Screws for zirconium and cobalt-chromium / titanium



Evolution Matchholder



IntraScan Scanbody in 2 sizes (H4 and H7)



Model analogue (for digital and standard models)



Zfx™ Pre-Abutment Blanks

# Zfx™ Titanium bases

## Multiple options for maximum flexibility!

### **Zfx offers titanium bases for customized two-pieces abutments in two different versions.**

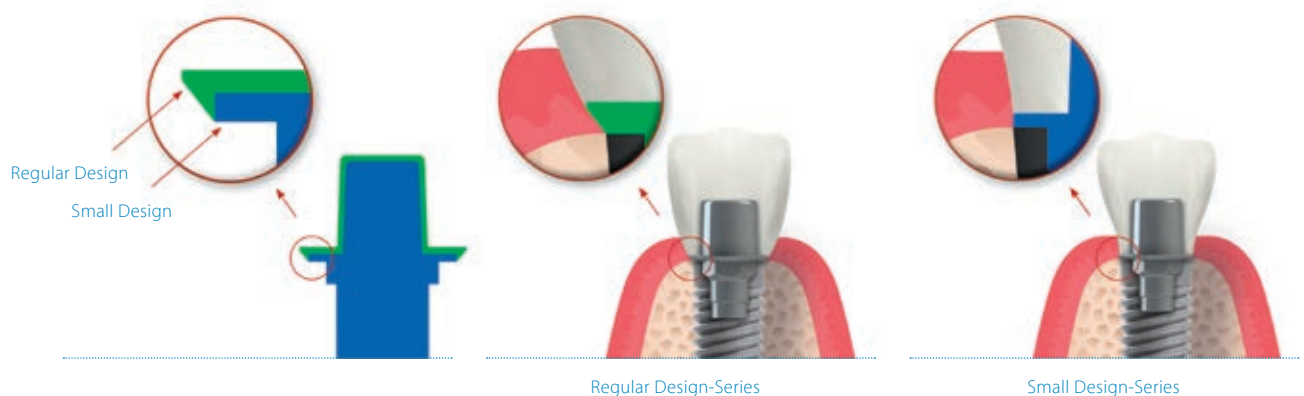
Two different types of titanium bases ensure there is always an optimal implant-abutment connection. The titanium bases with rotation protection are recommended for single-unit restorations; those without rotation protection are indicated when multi-unit restorations are planned. Additionally, titanium bases for multi-unit systems used for the incorporation of screw-retained bridges and bars (e.g. Zfx™ implant bridges and bars or Nobel Biocare's All-on-4) are new in the range of products.

All titanium bases – each with proper screws – are available in two designs: Regular with outwardly curved shape for patients with thick gingiva and Small with a straight and reduced shape for patients with thin gingiva. The Regular bases have a standardized connection geometry on the abutment side that matches that of nt-trading and of Medentika.

Thus, the geometries stored in the software solutions of Dental Wings, 3Shape and exocad can be easily selected as basis for the virtual design of abutments on Zfx™ titanium bases.

Thanks to the large supply of titanium bases, which are produced by Zfx in collaboration with Zimmer Biomet, users have a choice: they can create computer-aided hybrid abutments or implant-supported bridges in their own laboratory or order them from Zfx. As the titanium bases' geometries will also soon be integrated in the 3Shape CAD software, flexibility for the dental technician will be further increased.

### Regular vs. Small Design-Series





## Zfx™ implant bridges and bars – Everything in one package

With the new Zfx™ Premium Restorative Packages for cobalt-chromium and zirconium, Zfx provides everything necessary for screw-retained, implant-supported bridge frameworks in one. As well as the framework with up to ten links, the zirconium dioxide package also contains the titanium bases and screws compatible with the particular implant system.

Zfx™ Premium Restorative Package for cobalt-chromium includes the framework with up to ten units and the necessary fixing screws. Tedious ordering of individual parts is now a thing of the past!

### Zfx™ Premium Restorative Package "zirconium dioxide"



Screws  
+  
Framework  
+  
Titanium bases

### Zfx™ Premium Restorative Package "cobalt-chromium"



Zfx™ Premium  
Restorative Package





NEW!  
2<sup>nd</sup> Generation

wet & dry  
Fully integrated  
extraction unit, pump  
and filter system!



# Zfx™ Inhouse5x *wet & dry*

## New industrial standard in compact size



**With the Inhouse5x, Zfx offers a compact milling unit suitable for 5-axis simultaneous machining that can be easily integrated into any laboratory.**

The machine is equipped with a high-frequency spindle (6,000 to 100,000 rpm). Thus, together with a variety of milling strategies and tools, a faster and more economically efficient manufacturing process is guaranteed. Furthermore, Zfx™ Inhouse5x allows processing of materials in form of blocks (up to 15 blocks) and a tool magazine that can automatically change up to 28 tools. The placement can be adapted to the individual laboratory's needs.

The Zfx™ Inhouse5x is suitable already in basic version for milling and grinding resp. for the dry and wet processing, so various materials such as zirconia, ceramic, composite, PMMA, wax, cobalt chrome and titanium can be processed.

**The recommended indications include:**

- Inlays and Onlays
- Veneers
- Crowns
- Individual abutments on metal bases
- Implant bridges on multi-unit platforms and on implant level
- Two-piece implant bridges on metal bases

hyperDENT  
inside



### Highlights

- *Open system (STL data files)*
- *Compact dimensions – One-piece steel body weighing over 220 kg for high stability and improved milling performance*
- *Simultaneous 5-axis milling, A- and B-axis with servo-motors*
- *Wet and dry machining (Fully integrated extraction unit, pump and filter system)*
- *EasyClean: for fast and simple change-over between dry and wet processing*
- *Spindle with speed range from 6,000 rpm up to 100,000 rpm (shaft with 4 mm diameter / 8,4 Ncm)*
- *Milling and grinding on one machine*
- *Automatic tool magazine for up to 28 tools (Part of the basic package!)*
- *Multi-Block Support allows the positioning and management of up to 15 blocks*
- *Blankholder with Ø 100 mm*
- *Replacement tool management*
- *Tool-break detection*
- *Automatic length measurement*

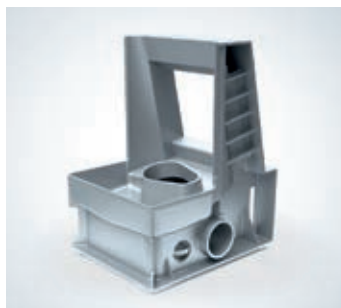
### Materials

- *Zirconia*
- *Glass ceramic (IPS e.max®, VITA Suprinity® ...)*
- *Composite (Lava™ Ultimate, VITA Enamic® ...)*
- *PMMA*
- *Wax*
- *Cobalt-chrome*
- *Titanium*

# Zfx™ Inhouse5x wet & dry

New industrial standard  
in compact size

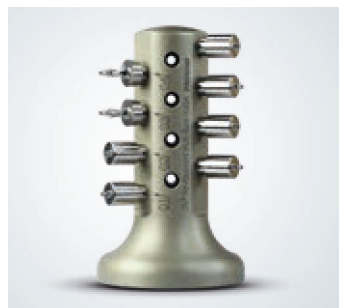
## High-end system components



One-piece body weighing over 220 kg for high stability and improved milling performance



Multi-Block Support allows the positioning and management of up to 15 blocks



Pre-Block Support allows the positioning and management of up to 12 blocks



Zfx™ Baltic Denture holder



Simultaneous 5-axis milling, A- and B-axis with servo-motors (dry and wet)



Automatic tool changer



Spindle with speed range from 6,000 rpm up to 100,000 rpm (shaft with 4 mm diameter / Torque 8.4 Ncm)

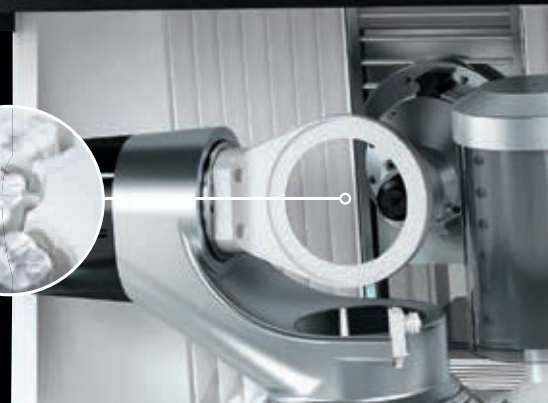
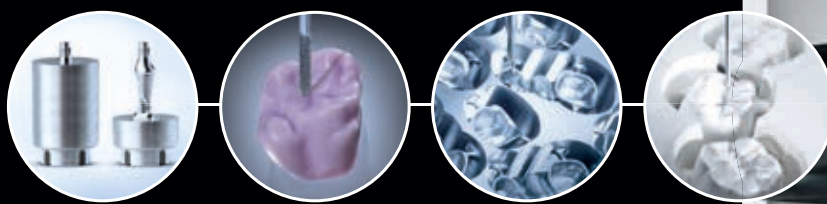


Measuring system for highest accuracy

## Zfx™ Inhouse5x – Features

Number of axes:		5, synchronized control	Output power:	[W]	max. 500
Traverse range (x, y, z axis):	[mm]	180 × 190 × 110	Run out (taper):	[µm]	≤ 1
Rotation axis:	[degree]	360° (endless)	Chuck clamping range:	[mm]	up to ø4
Swivel axis:	[degree]	–30° up to +120°	Tool length:	[mm]	45
Repeat accuracy:	[mm]	0.001	Magazine – holding quantity:		28
Speed range:	[rpm]	6,000–100,000	Dimensions (B×H×T):	[cm]	66 × 167 × 110
Torque:	[Ncm]	8.4	Weight:	[kg]	330





## Zfx™ Inhouse5x Upgrades

### Upgrade 1: Pre-Abutment Processing

Enhancement for processing pre-abutment blanks.



### Upgrade 2: Multi-Block Support (up to 15 blocks)

Allows the positioning and management of different blocks (e.g.: IPS e.max®, VITA Suprinity®, IPS Empress® ...).



### Upgrade 3: Baltic Denture processing

To enable the manufacture of complete Digital Acrylic Dentures using the Zfx™ Baltic Denture Software.



### Upgrade 4: Multi-Unit processing

Enables the processing of implant bridges on multi-unit platforms and on implant level in cobalt-chromium, titanium, zirconia, PMMA and peek.



## Join our Zfx Network!

With the acquisition of a Zfx™ system and the associated Zfx trainings you'll gain the needed Zfx knowledge to get part of the Zfx network and thus getting the option of becoming an authorized milling lab and serving our clinical customers.



# Zfx milling center

## The expert for high-end prostheses

### Your benefits

- Comprehensive range of services
- Unique technology expertise
- Competent and personal consulting
- Higher standard of quality thanks to the certification of all Zfx partners
- Fully optimized, common process chain for industrial manufacturing
- Life time warranty on all indications
- Authorized milling partnership with Kuraray, Ivoclar Vivadent, Vita and Merz Dental

### Zfx milling centers provide a comprehensive range of services which are implemented in a standardized process chain by experienced staff.

All Zfx milling centers – owner-operated production workshops of the company at home and abroad – provide a fully optimized process chain which is customized down to the last detail for the manufacture of high-quality dental prostheses – from the scanning technology and software systems to the milling machine. An equally high quality of restorations is ensured everywhere due to a common technology standard at all locations.

### Range of services

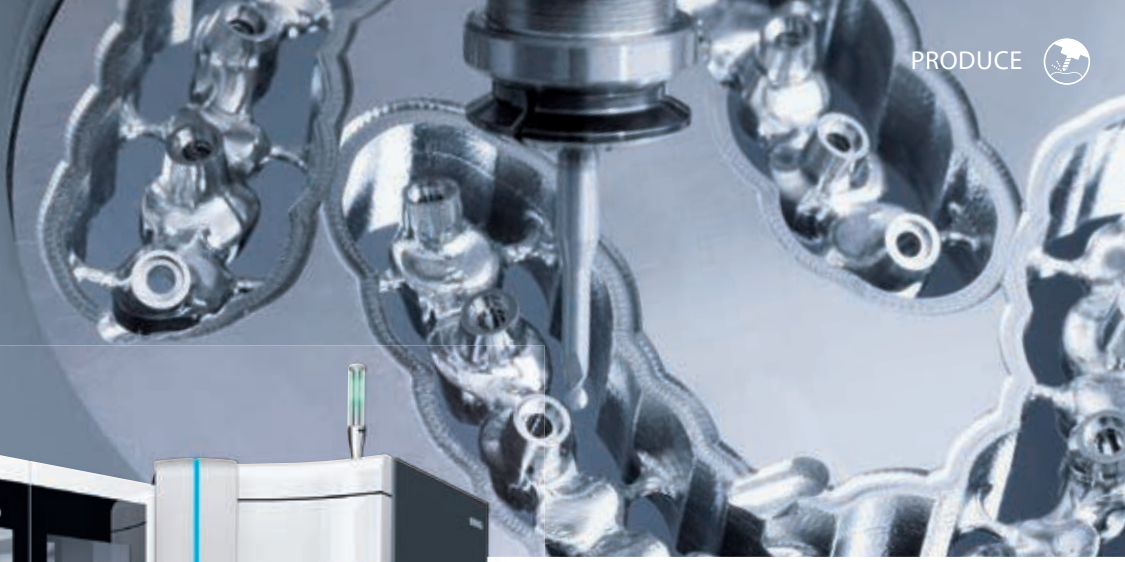
All digital process steps, from the scanning of a model to the design and manufacture, are carried out in Zfx milling centers if required. In doing so, all available materials can be machined, and numerous indications – such as tooth and implant-supported crowns, bridges,



Zfx milling technology operates with low process forces, and in combination with long-standing Zfx experience it guarantees productive chip-removal rates and highest surface qualities.



The industrial 5-axis machining enables highly precise production of complex structures such as screw-retained implant bridge frameworks.



Manufacturing units, which are capable of implementing even highly complex geometries, are used in Zfx milling centers.

inlays, onlays, veneers, implant abutments, bars and attachments – can be realized. Close collaboration between the dental clinic and laboratory is required in order to optimize the production workflow. This is provided by the Zfx™ Manager 2.0 – a software tool for data management and communication.

**Zfx ultra-modern manufacturing technologies give precise results – for maximum added value thanks to minimum rework.**

Manufacturing units, which are capable of implementing even highly complex geometries by means of 5-axis simultaneous machining, are used in Zfx milling centers. Both available machines have been carefully tested over many years and have been optimally incorporated into Zfx's digital workflow.



Zfx is an official milling partner of Kuraray, Merz Dental, VITA and Ivoclar Vivadent



# Individual dental prostheses

## Unlimited options



**Zfx produces high quality dental prostheses on natural teeth as well as on implants. These can be made from a wide range of different materials.**

### From the first impression to the finished prosthesis

No other method is as efficient and economical as the industrialized production of dental prostheses! Zfx milling centers offer the best of the best in this regard:

- Favourable conditions thanks to our organized purchasing syndicate for raw materials, tools and equipment.
- A perfected process chain: from the 3D model to the ready milled prosthesis
- A regional supplier partnership with short distances and direct, personal communication.
- ISO certification and life time warranty!

## Overview of materials and indications



	Inlays, Onlays	Dental crowns	Dental bridges
PMMA / Multi Color	●	●	●
Cobalt-chromium	●	●	●
Titanium	●	●	●
Zirconium dioxide	●	●	●
Zirconium dioxide "effect"	●	●	●
Zirconium dioxide "BionX <sup>2</sup> "	●	●	●
Glass ceramics / Composite	●	●	
Burn-out plastic	●	●	●
Fibre reinforced polymer	●	●	●
Wax	●	●	●
Gold	●	●	



## Original OEM Abutments from Zfx Milling Centers

Apart from individual high-end Zfx™ Abutments for all common implant systems, you also receive **individual OEM Abutments from Zimmer Biomet, Straumann, Camlog, ICX and MIS.** The authorized Zfx milling centers use only original blanks with a manufacturer's certificate for the production of individual customized abutments.



**Straumann:** Bone Level®, SynOcta® | **Camlog:** CAMLOG® SCREW-LINE, iSy®, CONELOG® SCREW-LINE | **ICX** | **MIS:** V3 | **Zimmer Biomet:** Certain®, External Hex, TSV™/Trabecular Metal™ and Eztetic™

High-Quality  
Screw-retained  
implant bridges



Abutments	Bars	Implant bridges	Shear force distributors
●*	●*	●*	
●	●	●	●
●	●	●	●
●*	●	●	●
●*	●*	●*	
●*			
●*			
●*	●*	●*	●
		●	
●*	●*	●*	●

\* in combination with metal bases only

# Baltic Denture System

## Computer-aided production of complete dentures



**Is it possible to produce high-quality full dentures in a time-efficient and economic procedure? The answer is yes – with the innovative Baltic Denture System (Merz Dental). Now, Zfx is happy to present an update for integration of this innovation, which is composed of a transfer kit for the dental office, software modules and adapters for scanner and milling machine, into the company's own CAD /CAM system.**

For the production of the Baltic dentures, the laboratory receives a functional impression as well as the encoded Upper and LowerKEYs of the <sup>BD</sup>Key® Set (Merz Dental). The encoding of the keys is used to transfer information about the occlusal plane, the facial midline and the jaw relations into the virtual world.

In the laboratory, models are produced on the basis of the functional impressions. They are then digitized with the scanner Zfx™ Evolution or Zfx™ Evolution plus. In addition, the encoded keys are mounted in the Zfx™ Baltic Denture Holder and scanned as well. Subsequently, the generated digital datasets are imported into the new CAD software module <sup>BD</sup>Creator® PLUS. Once the blank is selected, the teeth are virtually positioned in the intra-alveolar space using the information obtained from the encoded keys and the denture base is generated.

The design data can now be sent to a Zfx™ Authorized Milling Center or used for in-house production with a Zfx™ Inhouse5x. For the latter option, a CAM software upgrade and a specific blank holder are available.

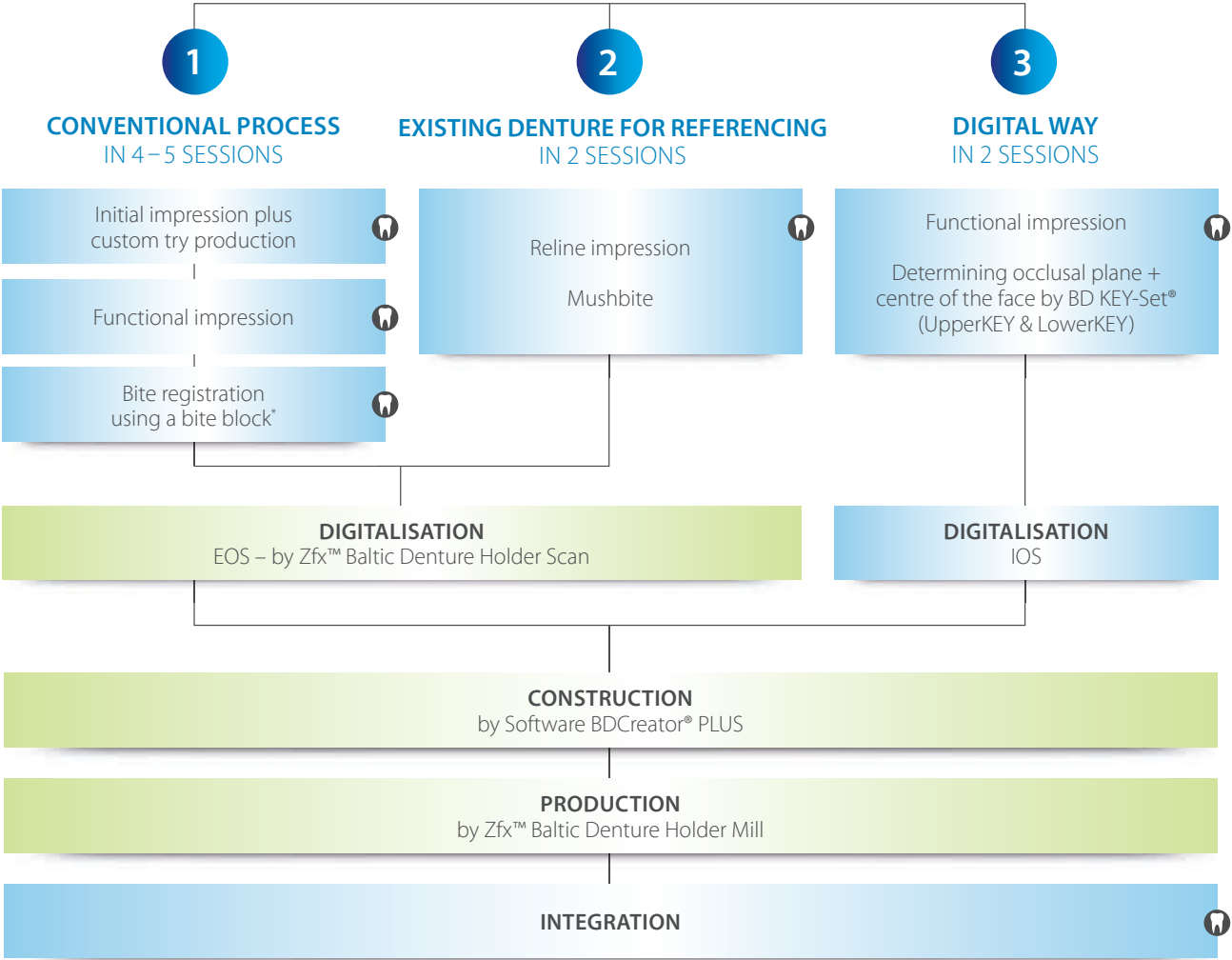


The impressions are digitalized with the Zfx™ Evolution (plus) and the Zfx™ Baltic Denture Scan-Holder. Subsequently, the generated digital datasets are imported into the new CAD software module <sup>BD</sup>Creator® PLUS. The processing of the Merz Dental Loads with integrated tooth position is carried out with the Zfx™ Inhouse5x.



**FREE**  
TEST VERSION  
zfx-dental.com

**3 WAYS TO BALTIC DENTURE FULL DENTURES**



\*Possible: Production on a model or try-in dentures

 DENTIST     LAB     Session at the dentist

 **FREE TEST VERSION OF THE BALTIC DENTURE SYSTEM**  
Download now at [www.zfx-dental.com](http://www.zfx-dental.com)

# Zfx™ Digital-intraModel System

## Computer-aided fabrication of physical models

### Your benefits

- *Modern production technologies for high-quality prosthetic work*
- *Modular system design to suit everyone's needs*
- *Easy component integration*
- *Innovative communication and management platform for smooth operations*
- *Genuine implant components for a precise fit between implant and abutment*

### Cleverly designed system for highest precision

Intraoral scanners help to improve the quality of preparations and impressions by providing direct visual control opportunities. The data obtained from the process is typically highly accurate, which may have a positive impact on the fit of the final restoration. The Zfx™ Digital-intraModel System was specifically developed for dental technicians who want to evaluate this fit in the laboratory already.

The system consists of a software module and separately available hardware components – base plates for upper and lower jaws, pins for model fixation on the plates and an intercuspidator. The software module “Digital intraModel System” is used to design different types of models based on the impression data.

### The production

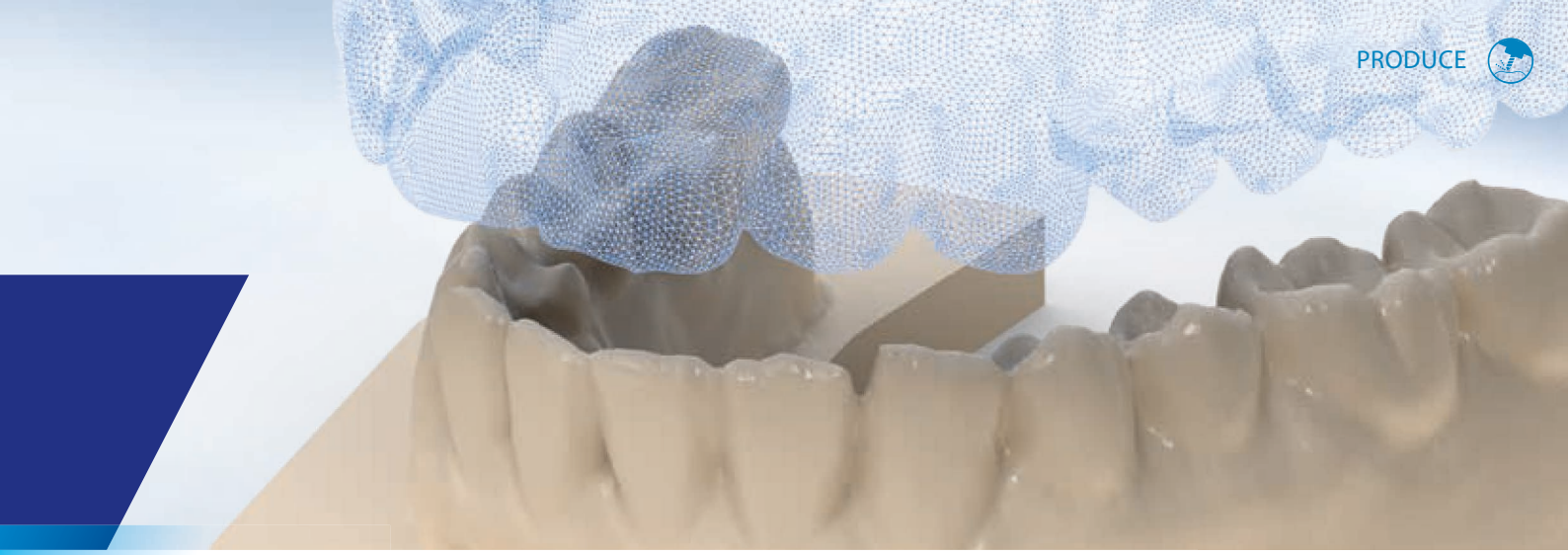
Employing a highly precise 3D printing process, the models are produced at Zfx. Implant models are delivered with suitable model analogs (either Zfx™ GenTek™ Digital Scan Analogs for Zimmer Biomet implants or Zfx™ Model Analogs for implants of other manufacturers) that ensure highest accuracy through exact positioning. The high accuracy is guaranteed by the patented fixation process via a locating pin, which is guided through printed holes in the model as well as in the analog (plug system). This means that the intended position is exactly transferred from the software. The models may be fixed on the plates and mounted in the intercuspidator and in a standard articulator (e.g. Artex®, Amann Girrbach). Tests reveal that the accuracy of the models is sufficient even for checking the fit of complex screw-retained implant-supported bridges.



The Zfx™ GenTek™ Digital Scan Analogs feature a genuine connection, replicating the position and orientation of the implant. The Scan Analog can also be implemented in a plaster model as usual, using an impression.



A patented plug system enables the exact positioning of the model analogs.



**2. Designing**

With the software upgrade, 'Digital intraModel System' the digital data record is transformed into a model. Therefore the selection of the model type, the scanning position between the plates, the determination of the preparation margins, respective emergence profile (implant model) and the segmentation is made.



**1. Scanning**

The intraoral scanner enables highly precise situation scans. Even the exact position of a BellaTek® Encode® Gingiva-former can be determined (impression posts, scanbody and healing cap at the same time).



FROM THE SCAN  
TO THE  
PHYSICAL MODEL



**4. Exact positioning**

The finished models are fixed on the cover plates respectively on the intercuspidator, protrusion and laterotrusion movements can be carried out.

Implant models are delivered including suitable model analogs.

**3. Manufacturing**

After the data have been submitted to a milling center the manufacturing is carried out by the highly precise 3D-Printing technology (trix™ print).



# Global Network

International expertise network,  
personal, regional service



**Zfx focuses on international network structures and concentrating expertise for optimum local service.**

### **Zfx Partner network**

Zfx consists of a decentralized network of specialized and efficient Digital Labs and milling centres. Owner-operated companies use standardized technologies tested within the network. An equally high quality of restorations is ensured everywhere thanks to a common technology standard at all locations.

### **Personal consultation**

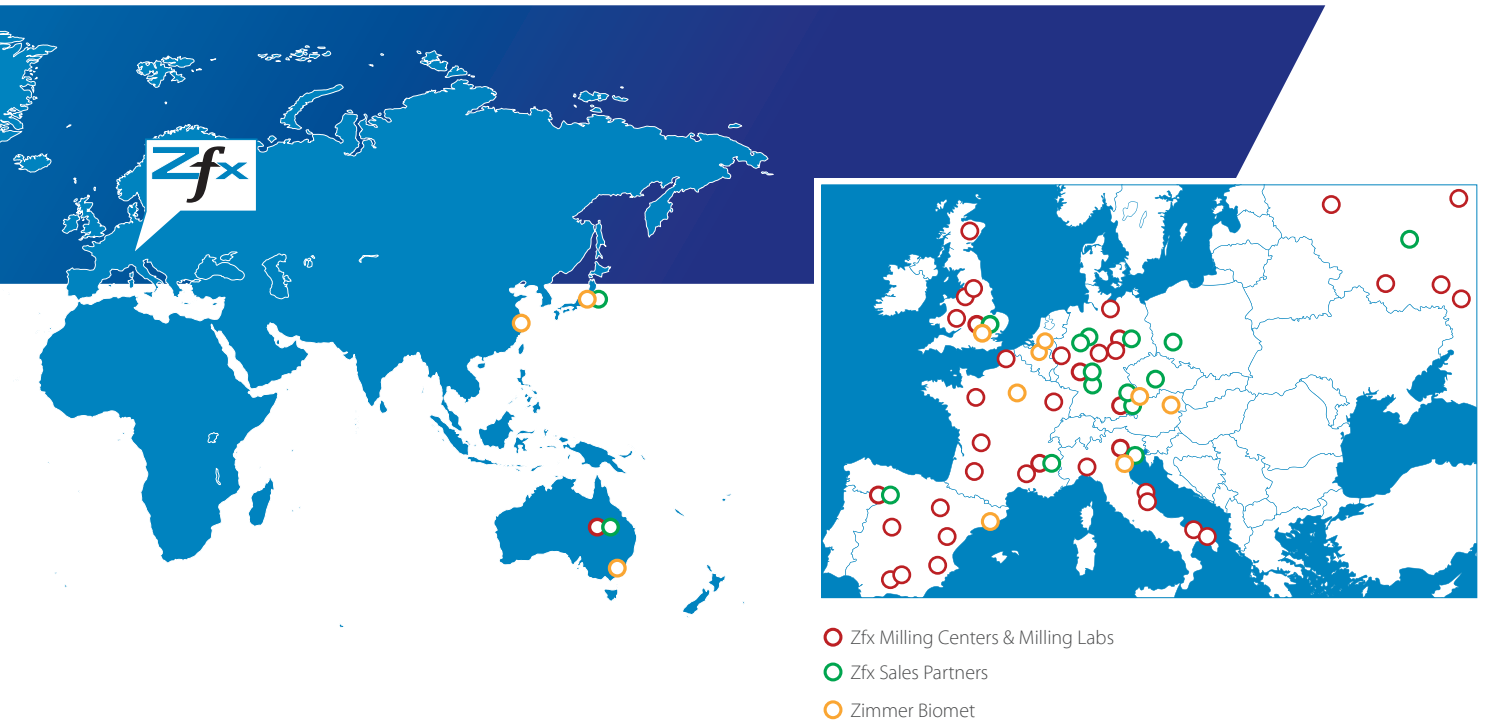
Dental technology is a matter of trust! Zfx therefore ensures that every laboratory has access to a competent personal adviser from the milling center. The advisor will provide assistance by telephone and by remote service as well as on site if required.

### **Worldwide Sales Partners**

For the optimum customer service, Zfx offers a comprehensive regional network of sales partners. Each of them has an expert that specializes in Zfx high-tech CAD/CAM technologies. At the local Zfx Showrooms, interested clinicians and technicians can experience and learn about the complete digital workflow.



The in-house manufacturing ensures the required know-how to carry out service requests fast and capably – also on-site, if needed.



All official global distributors, digital labs and milling centres online at [zfx-dental.com](http://zfx-dental.com)





[www.zfx-dental.com](http://www.zfx-dental.com)

**Zfx GmbH**

Kopernikusstraße 15  
85221 Dachau, Germany  
Tel. +49 81 31 33 244 - 0  
Fax +49 81 31 33 244 - 10  
[info@zfx-dental.com](mailto:info@zfx-dental.com)