

*tiologic*<sup>®</sup>

## The implant system.

Evaluated on the base of experience.



The Dentaorium Group.  
Worldwide dental competence for more than 125 years.



*Quality is  
your demand and  
our expertise.*



### Dental technology setting standards.

The Dentaorium Group develops, produces and sells products for dentists and dental technicians worldwide. The variety of products for dental technology, orthodontics and implantology is unique in the dental world. Dentaorium Implants, a manufacturer of implants, is a subsidiary of Dentaorium.

### Quality inspires confidence.

As the oldest dental company in the world, we have worldwide experience with high-quality dental products. Our market success is based on consistent implementation of customer and market demands. This is why we are committed to the constant further development of the company and continuous improvement of the quality of our processes and products.

### Service as added value.

There many reasons for using Dentaorium Group products in the practice and laboratory. Quality is the decisive factor. Our company philosophy is to perfect the quality by providing additional performance and service for our products. We offer a wide-ranging training programme for new and advanced users with an internationally experienced team of course instructors. Contact us for further information.



The implant system.

# *tiologic*®

## Maximum safety.

The implant shape and thread geometry of the tiologic® implant are ideally coordinated. This ensures that a uniform, bone-conserving flow of force is created both in the cortical and cancellous bone, which simultaneously guarantees high primary stability.



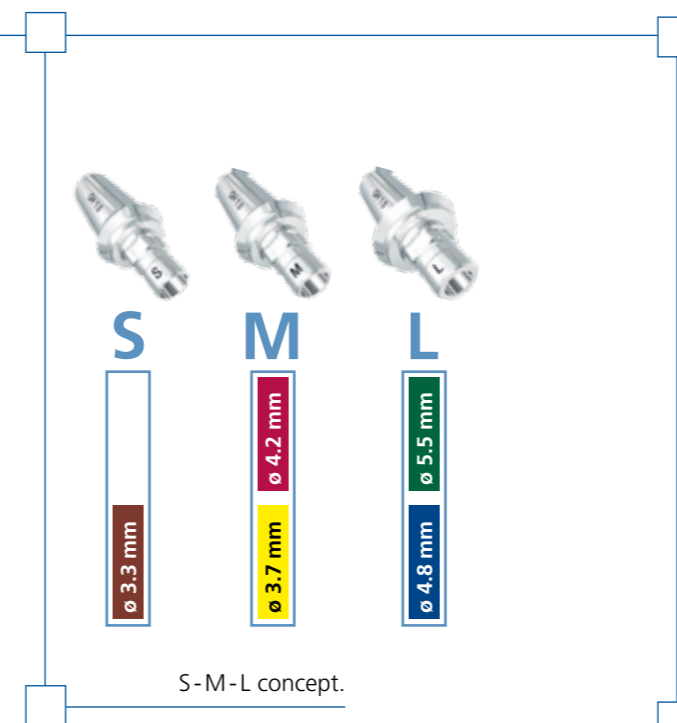
## Perfect aesthetics.

The internal PentaStop® rotational security with integrated platform switching provides the optimum conditions for a durable, aesthetically perfect superstructure tailored to the individual requirements of the patient using the tiologic® implant system.



## Easy handling.

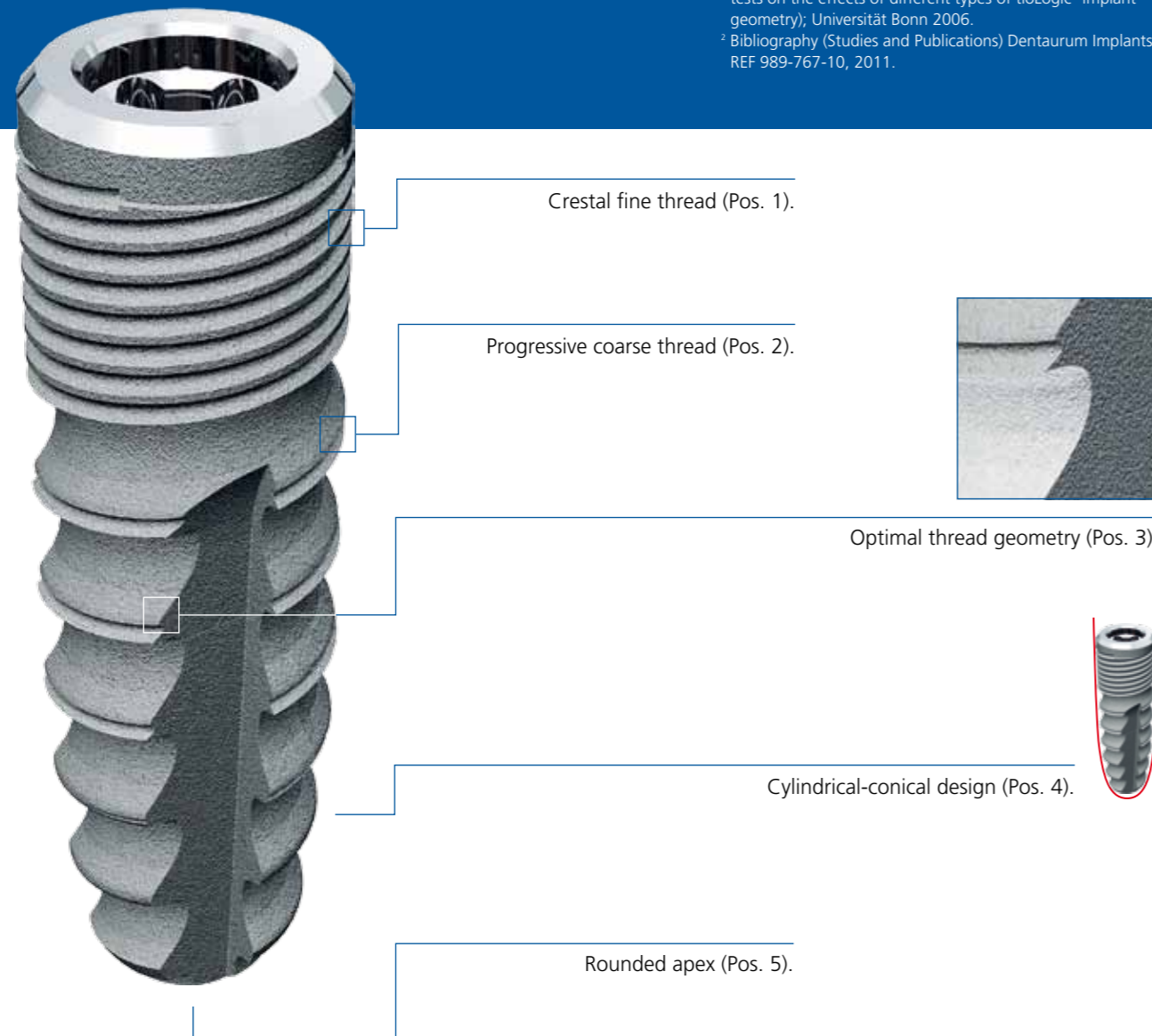
The S-M-L concept provides the user with a choice of 5 implant diameters, 5 implant lengths and 3 prosthetic abutment series for the prosthetic restoration.



## Maximum security.

### FEM-optimized implant shape and thread geometry.<sup>1, 2</sup>

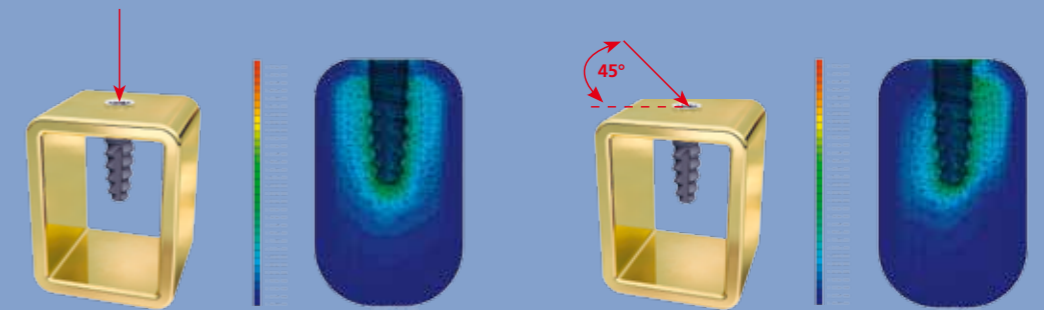
<sup>1</sup> A. Rahimi, F. Heinemann, A. Jäger, C. Bouraue: Biomechanische Untersuchungen des Einflusses von Geometrievarianten des tioLogic® Implantats (Biomechanical tests on the effects of different types of tioLogic® implant geometry); Universität Bonn 2006.  
<sup>2</sup> Bibliography (Studies and Publications) Dentaurum Implants, REF 989-767-10, 2011.



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### Optimal load distribution.

The design of the thread (fine/coarse thread), thread geometry, cylindrical-conical implant shape and rounded apex were calculated and documented using FEM analyses<sup>1</sup>. This produces uniform, gentle loading of the bone, while preventing stress peaks that could damage the bone and localized overloading.



### Dual thread design.

The crestal fine thread (Pos. 1) of the tioLogic® implant is ideally tailored to the density of the cortical bone and ensures high primary stability, even with poor horizontal bone availability.

The progressive coarse thread (Pos. 2), which follows on seamlessly from the fine thread, is tailored to the density of the spongiosa bone and provides high primary stability even with unfavourable bone conditions. It also guarantees perfect placement of the tioLogic® implant.

### Optimal thread geometry.

The design detail of the thread flanks and the contour of the thread depth and pitch of the tioLogic® implant have been developed to provide optimal load distribution. This thread design (Pos. 3) prevents strain or stress peaks in the bone. It also ensures excellent primary and secondary stability.

### Cylindrical-conical design.

The clinically proven external geometry (Pos. 4) of the tioLogic® implant, which is similar to the shape of a root, ensures physiological load distribution that produces minimum stress on the bone and also contributes to improved primary and secondary stability. The rounded apex (Pos. 5) prevents damage to anatomical structures (e.g. sinus floor) during insertion.

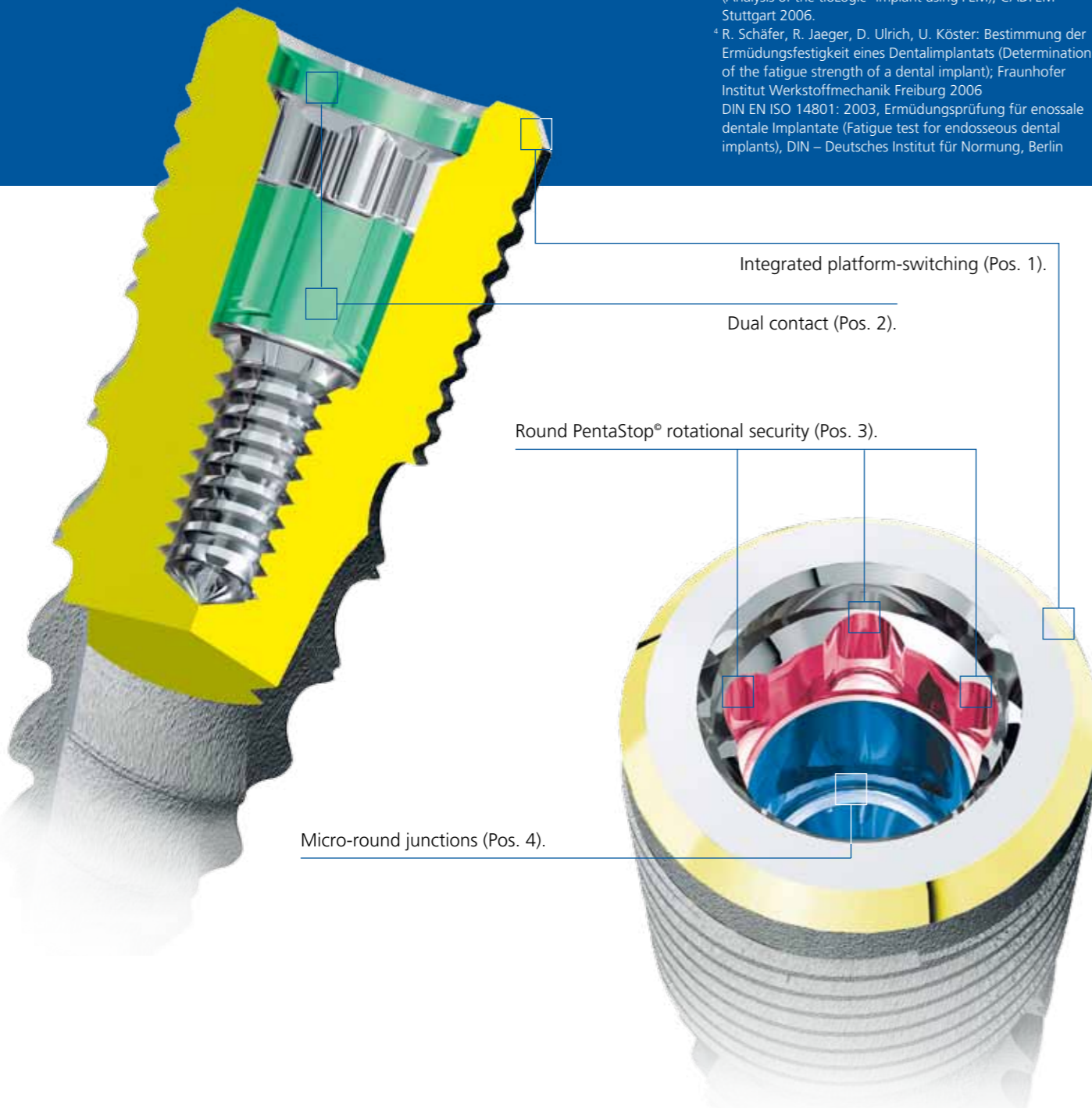
Perfect aesthetics.

FEM-optimized<sup>3</sup> ISO-proven long-term durability.<sup>4</sup>

<sup>2</sup> Bibliography (Studies and Publications) Dentaurum Implants, REF 989-767-10, 2011.

<sup>3</sup> F. O. Kumala: Analyse des tioLogic® Implantats mittels FEM (Analysis of the tioLogic® implant using FEM); CADFEM Stuttgart 2006.

<sup>4</sup> R. Schäfer, R. Jaeger, D. Ulrich, U. Köster: Bestimmung der Ermüdungsfestigkeit eines Dentalimplantats (Determination of the fatigue strength of a dental implant); Fraunhofer Institut Werkstoffmechanik Freiburg 2006  
DIN EN ISO 14801: 2003, Ermüdungsprüfung für endossale dentale Implantate (Fatigue test for endosseous dental implants), DIN – Deutsches Institut für Normung, Berlin



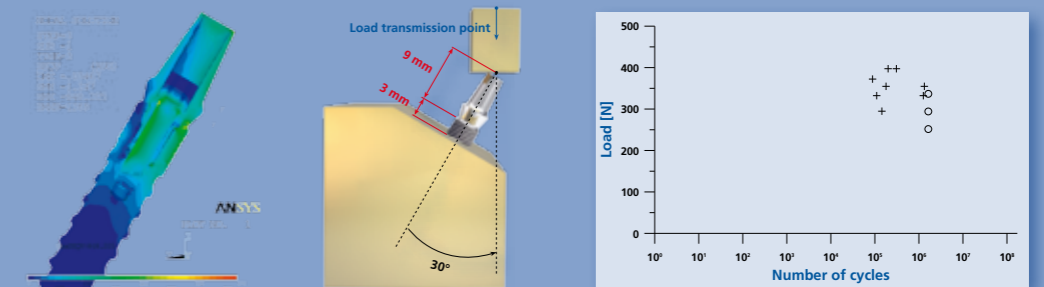
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FEM-optimized inner geometry.<sup>3</sup>

The dual contact and the rotationally secure connection of the system components, developed on the basis of FEM analyses, guarantee outstanding torsional and flexural stability. The high stability and the excellent fit of the system components are optimal features for ensuring customized, aesthetically perfect restorations and long-term implant success.

ISO-proven long-term durability.<sup>4</sup>

The inner geometry of the tioLogic® implant, which is based on FEM analyses, is designed to withstand heavy loading. This was conclusively confirmed by fatigue tests according to ISO 14801 in studies at the Fraunhofer Institute.



Integrated platform-switching.

The cervical chamfer (Pos. 1) of the implant shoulder in a tioLogic® implant takes into account the biological width. The combination of cervical chamfer, crestal fine thread and CBS surface (Ceramic Blasted Surface), which extends right to the cervical chamfer, promotes the apposition of bone tissue, prevents bone collapse and reduces gingival recession. This provides the basis for excellent, durable aesthetics.

Dual contact –  
Round PentaStop® rotational security.

The dual contact (Pos. 2) of the system components in the tioLogic® implant guarantees high positional stability and excellent torsional and flexural stability. The five internal PentaStop® rotational security stops (Pos. 3) provide an optimum combination of maximum rotational security and outstanding flexibility when positioning the system components. These are optimal features for ensuring customized, durable and aesthetically perfect superstructures.

Micro-round junctions.

Micro-round junctions (Pos. 4) have been incorporated in several sections of the inner connection of the tioLogic® implant and in the abutment components. These ensure on the one hand that the load distribution produces less stress on the material and on the other hand that the fit is optimized to provide increased stability and aesthetic options.

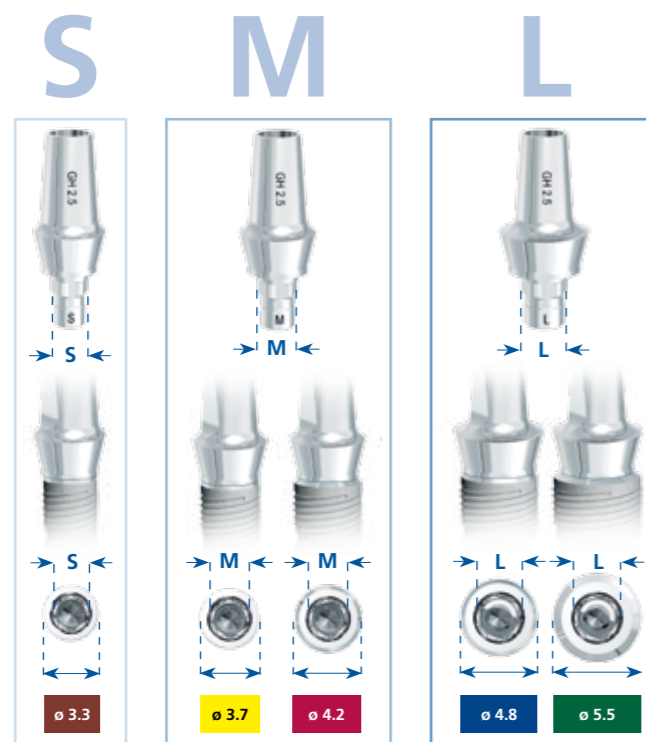
Easy Handling.

The S-M-L concept.

5 implant diameters. 5 implant lengths. 3 series of abutments.

Integrated platform-switching.

The optimal grading of implant diameters and lengths ensures that the appropriate implant is used for the indication. Components of the 3 series of abutments are made of plastic (temporaries), zirconia, titanium and precious metal and include CAD/CAM, bars, ball abutment, AngleFix, SFI-Bar®, LOCATOR® and magnets. The construction components S are used for the implant diameter 3.3 mm, the construction components M for the implant diameters 3.7 mm and 4.2 mm and the construction components L for the implant diameters 4.8 mm and 5.5 mm. For exact identification all components are marked with S, M or L by laser.



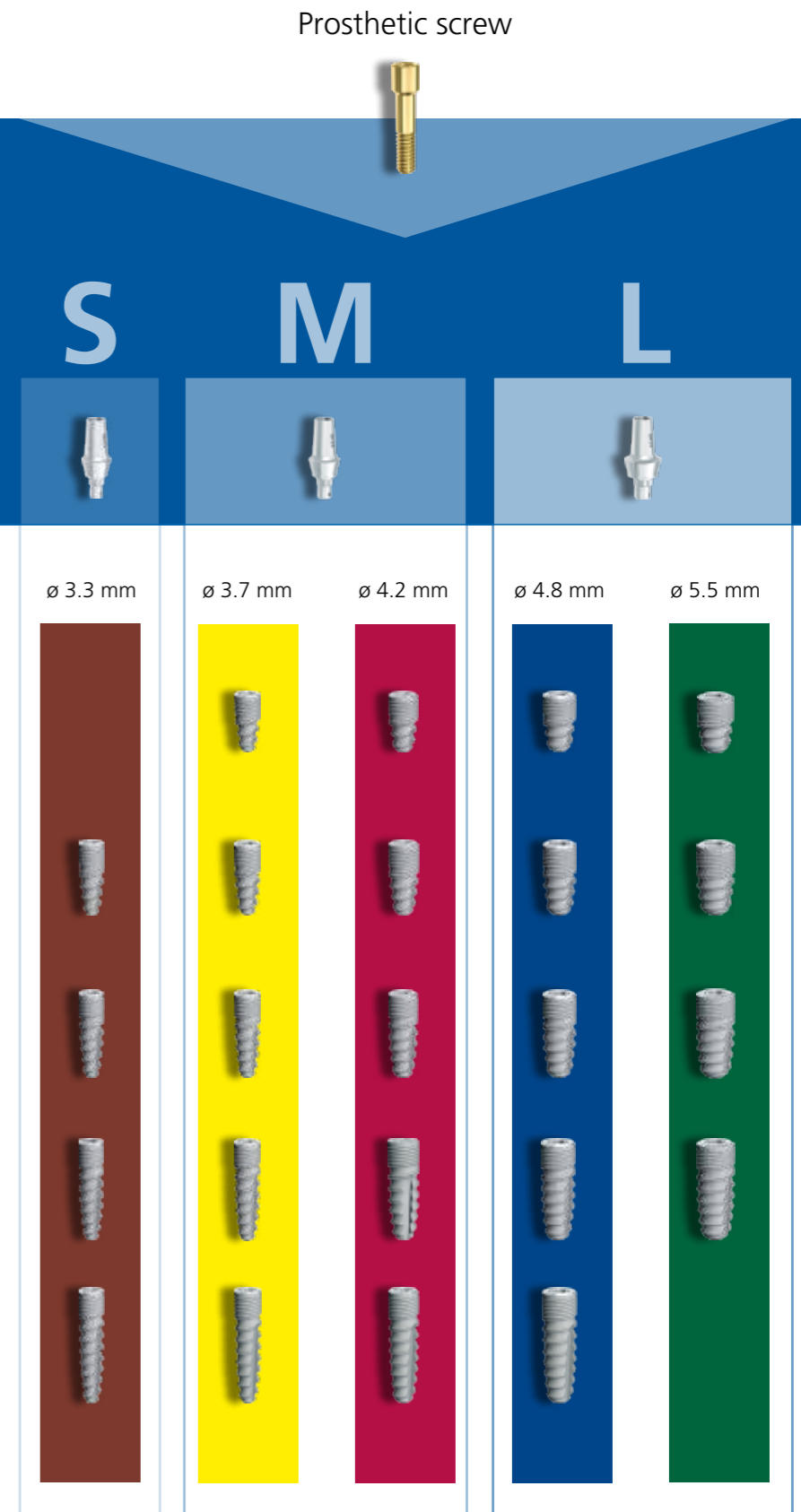
3 series of abutments.

5 implant diameters.

3 series of abutments.

5 implant diameters.

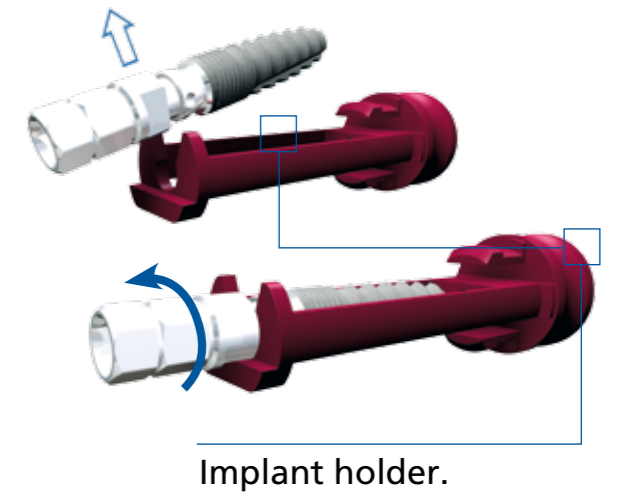
5 implant lengths.



All abutments and implants on a scale of 1:1.



Surgical tray.

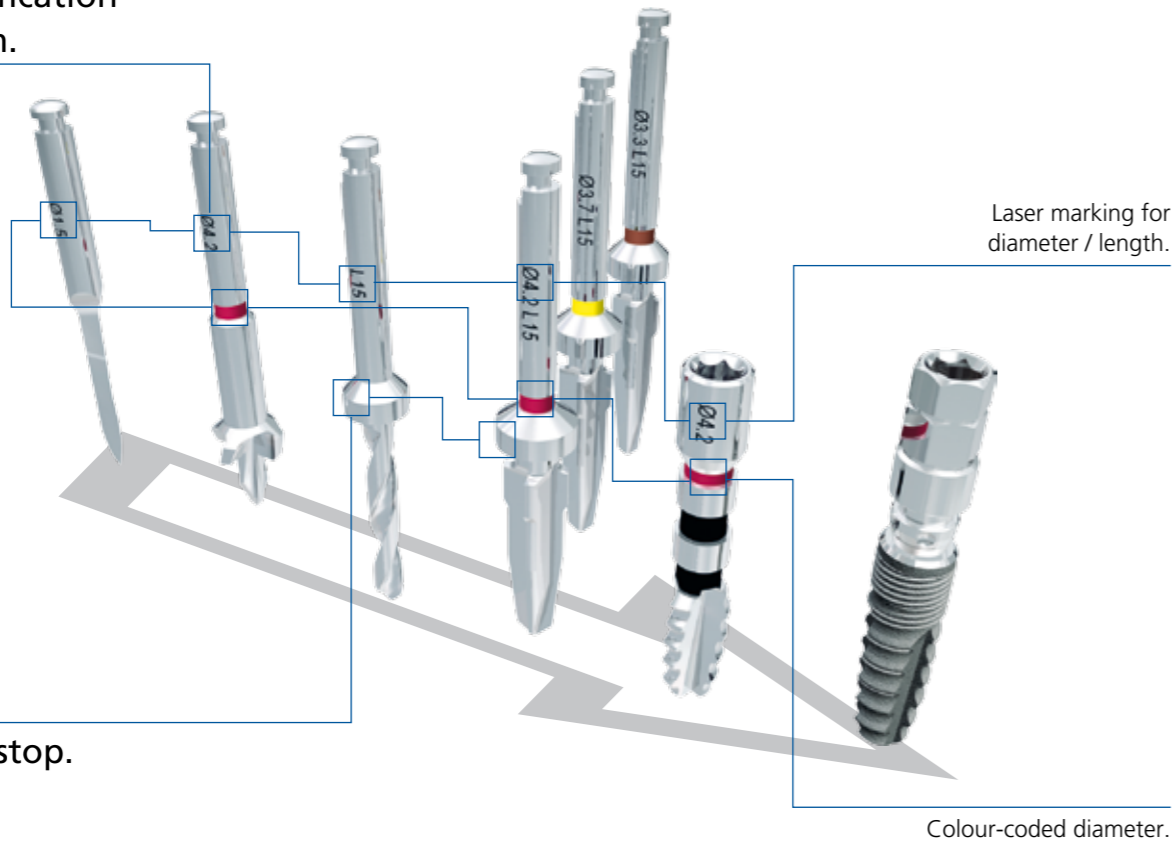


Implant holder.

Easy handling.

Clear design and systematic procedure.

Identification system.



Laser marking for diameter / length.

Depth stop.

Colour-coded diameter.

Surgical tray – layout tested in the practice.

The tioLogic® surgical tray contains all surgical instruments and accessories required for implant placement. The layout of the tray is structured to provide an efficient procedure and ensures a reliable, systematic technique. The standard aluminium container and stainless steel insert have been designed to comply with sterilization and cleaning guidelines. The standard aluminium container has integrated hydrophobic permanent PTFE filters.

Clear identification system.

tioLogic® implants and instruments are colour coded according to diameter for quick, reliable identification.

Integrated depth stop.

All essential preparation instruments for the tioLogic® implant have an integrated depth stop. In contrast to instruments with markings, the depth stop ensures that, even with a poor view, the insertion depth determined at the treatment planning stage is precisely maintained. This makes preparation simple and reliable.

Innovative implant holder.

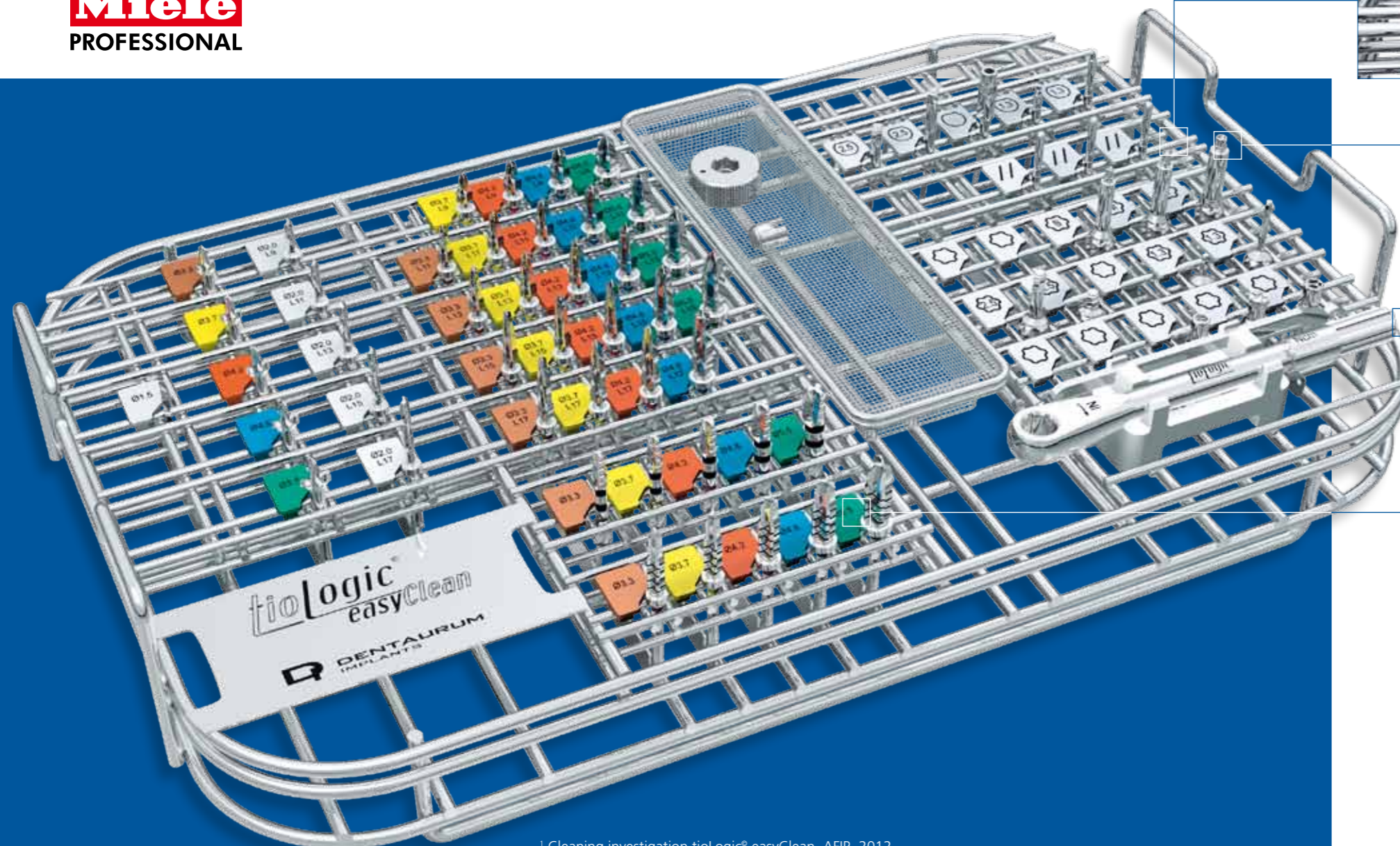
All tioLogic® implants are gamma sterilized and double packed. The implant is protected by a glass container and shrink-wrapped blister packaging. It is attached to a colour-coded implant holder. The operator removes the tioLogic® implant contact-free and, depending on the indication, places it directly or by using a manual or handpiece extension. This ensures easy, quick implant placement.



Cleaning – so easy.

tiologic<sup>®</sup> easyClean – the tray for machine processing.<sup>1</sup>

Developed in  
collaboration with:



Innovative  
lattice structure.



Stable  
fixation spring.



Clear  
guidance system.



Reproducible  
machine-treatment  
results.



The tiologic<sup>®</sup> easyClean is a Wash-Tray that contains all the rotary instruments and accessory components needed for implantation. They are arranged according to the operation sequence. For optimal orientation there is a colour-coded and laser-labelled plastic clip beside each instrument. The used instruments and accessory components are put back in the corresponding slots directly after each use. This increases safety during implantation as all instruments are always located in the intended place. After implantation, the completely packed tiologic<sup>®</sup> easyClean is transferred to the machine treatment cycle. Small parts and accessory components to be disassembled are placed in the mesh tray.

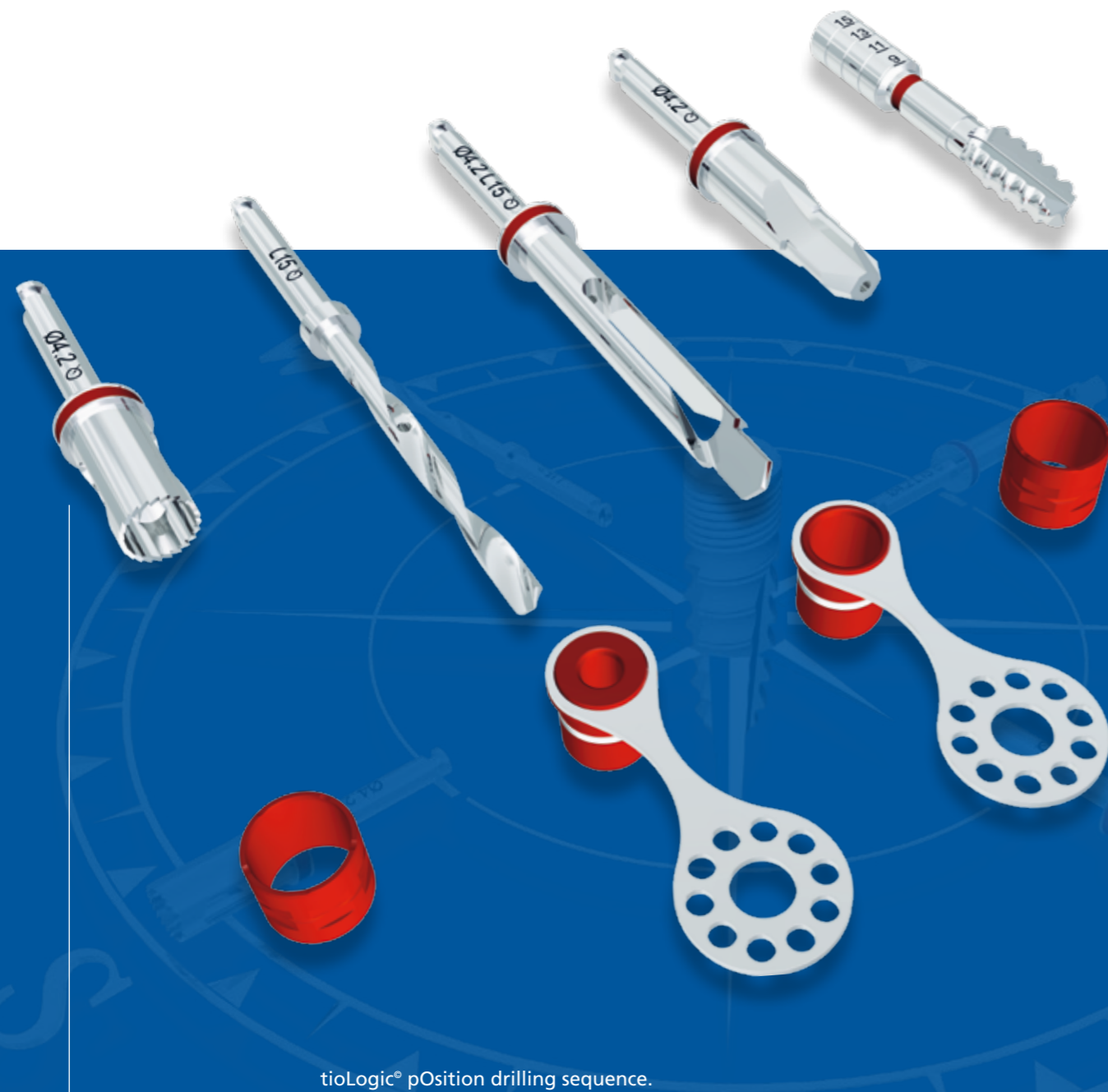
<sup>1</sup> Cleaning investigation tiologic<sup>®</sup> easyClean, AFIP, 2012.





## Planned reliable implant placement.

tiologic<sup>®</sup> pO<sub>s</sub>ition – template-guided implant placement.



Gentle preparation.



Precise fit.

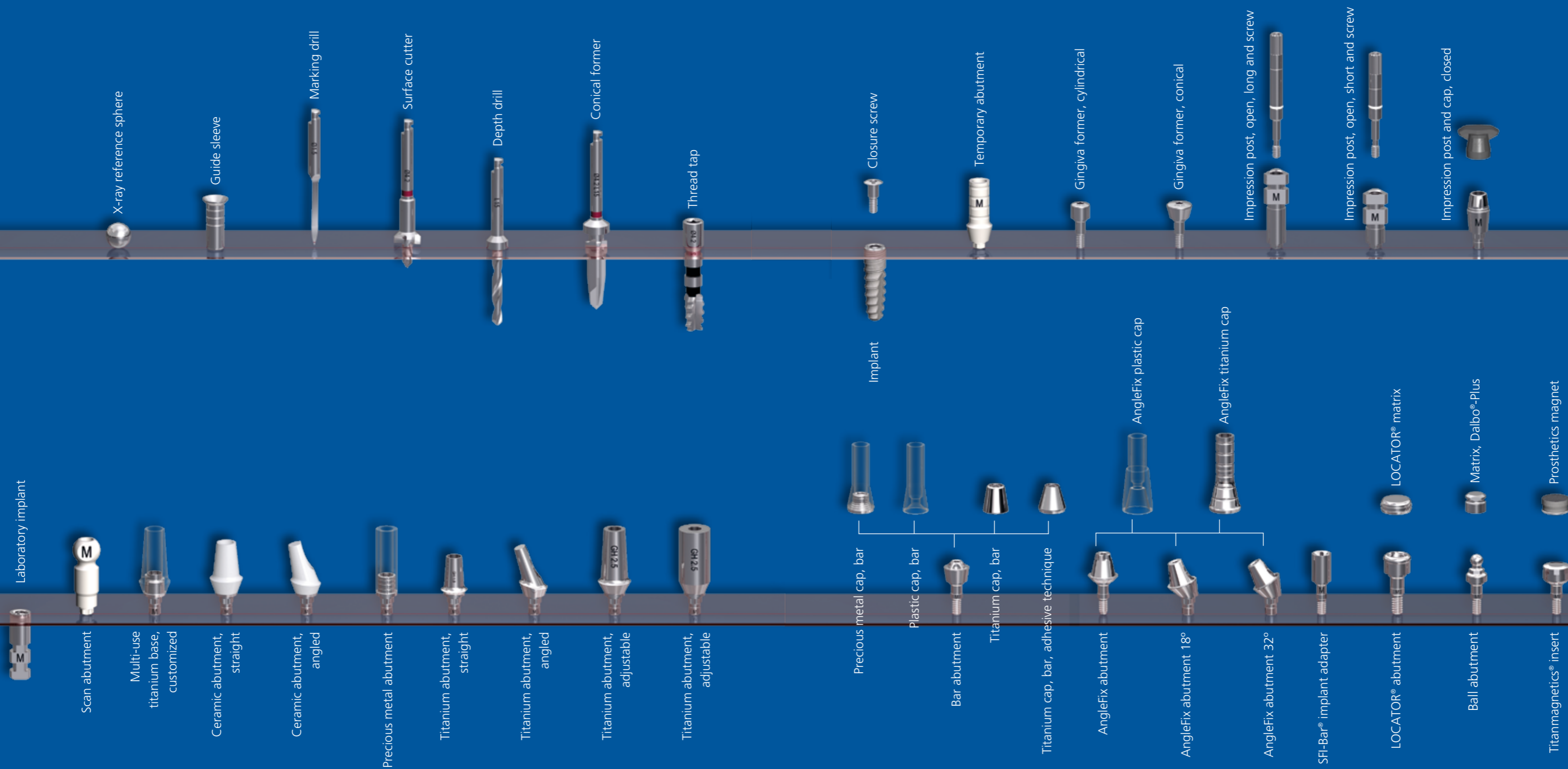
Minimally invasive  
implant placement.

Structured guide.

Modern 3D imaging techniques such as CT and DVT enable the operator to identify existing structures three-dimensionally in the jaw prior to surgery and coordinate the course of treatment accordingly. Implants can be positioned virtually with this imaging technique using 3D implant planning software, so that reliable template-guided surgery as well as functional and aesthetic prosthetic treatment is then possible. tiologic<sup>®</sup> pO<sub>s</sub>ition is a template-guided surgical system, used for positioning tiologic<sup>®</sup> implants in the jaw with the aid of coordinated 3D implant planning software and a surgical stent.

Surgical and prosthetic overview.

Optimally balanced product concept.



# Dentaurum Group

Germany | Benelux | España | France | Italia | Switzerland | Australia | Canada | USA  
and in over 130 countries of the world.



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Date of information: 01/13

Subject to modifications

