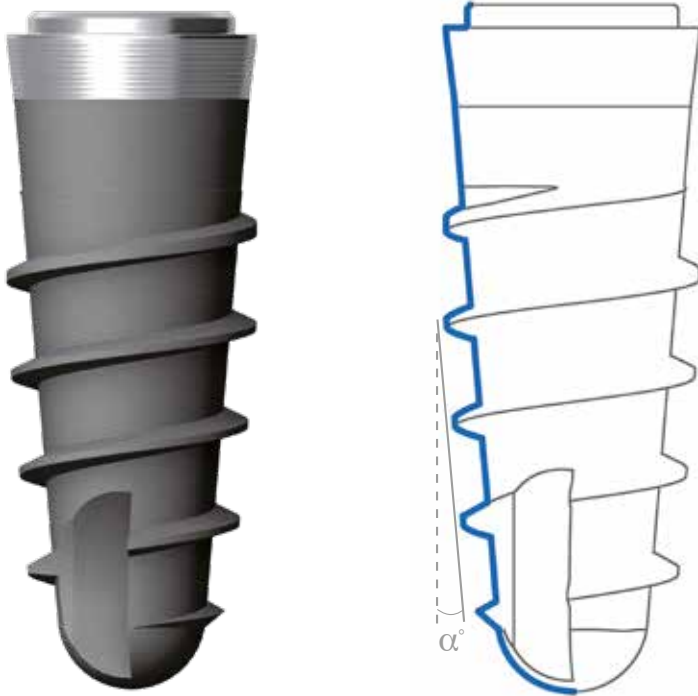


SHELTA

Choosing the thread

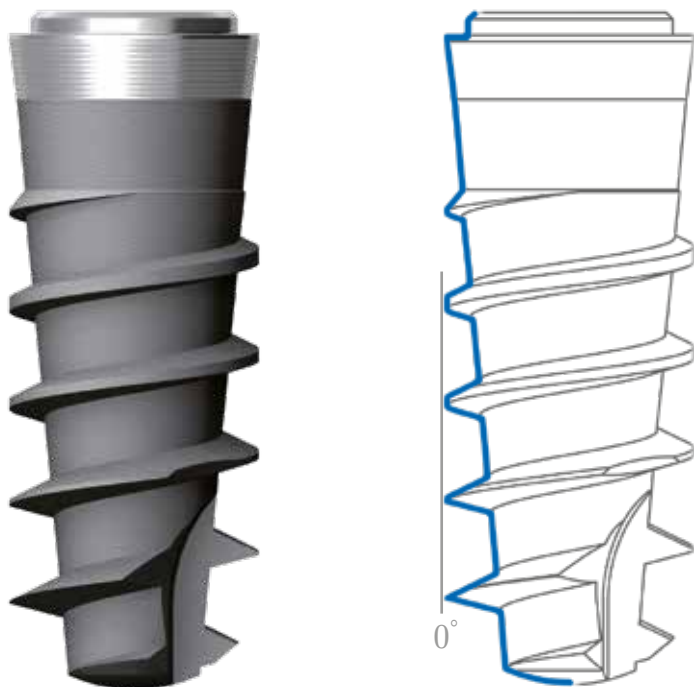
Shelta and Shelta SL implants differ in the morphology of the apical part. These differences allow the ideal morphology always to be available for achieving optimum primary stability, depending on the surgical practice and on the clinical conditions of the individual case.



SHELTA

In Shelta implants both the core of the implant and the threading have a tapered morphology. The crest of the thread of Shelta implants, is constant along the whole body of the fixture. Furthermore, unlike Shelta SL implants, the apex is a complete hemisphere and the presence of a less aggressive thread makes them preferable in the case of sinus lift surgery.

Shelta SL implants have a core with a tapered geometric shape, though they maintain a constant cylindrical external diameter along the whole length of the implant. This characteristic means that the threading at the apex is much more accentuated. The resulting morphology is indicated in post-extraction surgery and in the case of low-density bone.



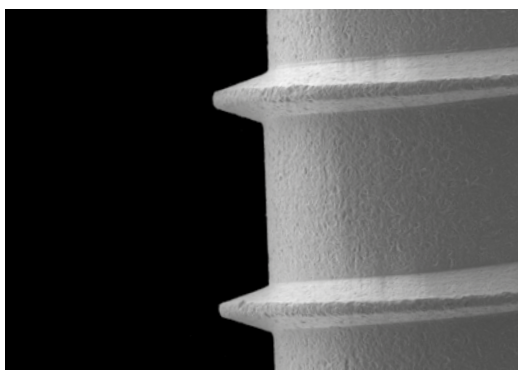
SHELTASL

The crest of the thread of Shelta SL implants increases gradually in the coronal direction. This increases the high cutting capacity of the most apical threads and ensure a high stability.

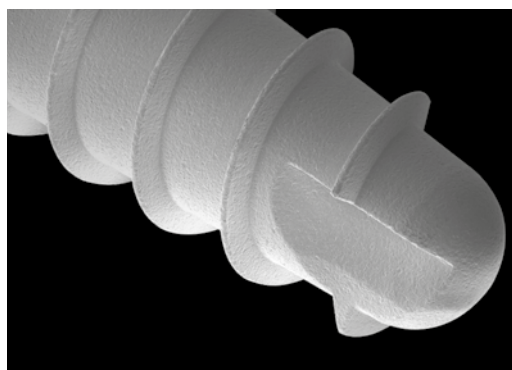
Shelta implants



In Shelta implants both the core of the implant and the threading have a tapered morphology. This type of implant is indicated where the bone volumes between the roots of the adjacent teeth do not allow the use of larger morphologies. Shelta implants are characterized by a micro-threaded UTM neck 1.00 mm high.



The thread of Shelta implants is characterised by a triangular profile, a pitch of 1.50 mm and a depth of 0.40 mm. The thread develops with the same geometry along the whole body of the implant.



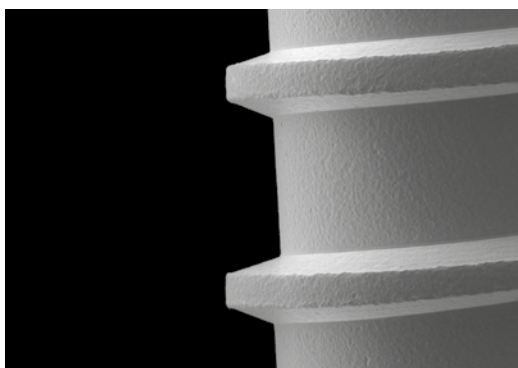
The apex of Shelta implants has two cut-outs that increase its penetration capacity and non-rotational property. The hemispherical apex makes Shelta implants ideal in sinus lift procedures.

Shelta lengths range	
diameter	length
ø 3.80 mm	8.50; 10.00; 11.50; 13.00; 15.00 mm
ø 4.25 mm	8.50; 10.00; 11.50; 13.00; 15.00 mm
ø 5.00 mm	8.50; 10.00; 11.50; 13.00; 15.00 mm
ø 6.00 mm	8.50; 10.00; 11.50; 13.00 mm

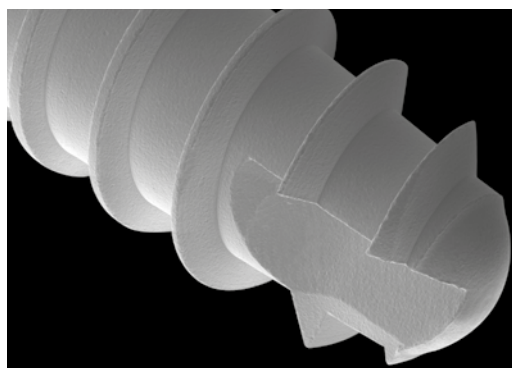
Shelta SL implants



Shelta SL implants, as the Shelta implants, are characterised by a micro-threaded UTM neck 1.00 mm high. The thread of Shelta SL implants develops keeping the maximum external profile constant. The result is a very pronounced and sharp apex.



The thread of Shelta SL implants maintains a constant pitch of 1.50 mm, but the depth varies along the implant body. Moreover, the thread develops keeping the maximum external profile constant.



Shelta SL implants have a rounded apex, but the dimensions is reduced due to the more pronounced threading.

Shelta SL lengths range	
diameter	length
ø 3.80 mm	8.50; 10.00; 11.50; 13.00; 15.00 mm
ø 4.25 mm	8.50; 10.00; 11.50; 13.00; 15.00 mm
ø 5.00 mm	8.50; 10.00; 11.50; 13.00; 15.00 mm

UTM Surface (Ultrathin Threaded Microsurface)

The neck of the Shelta implants is characterized by the UTM (Ultrathin Threaded Microsurface) surface treatment, a particular micro-threading that allows the perfect control over the connection diameter and prevents the accumulation of plaque around the junction with the post.

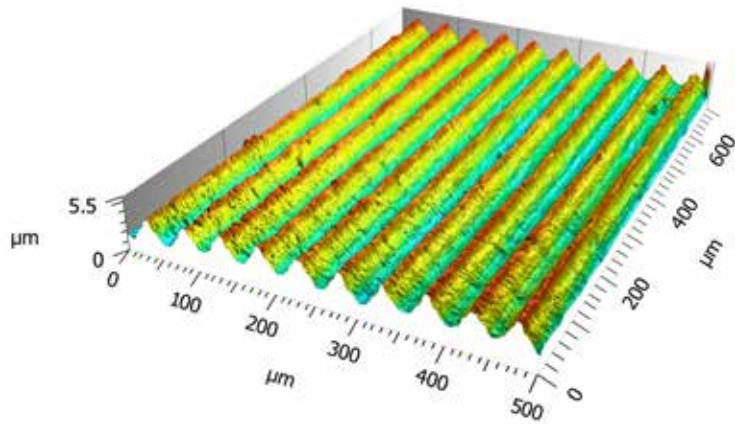
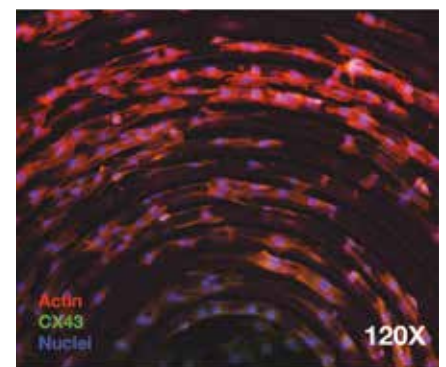
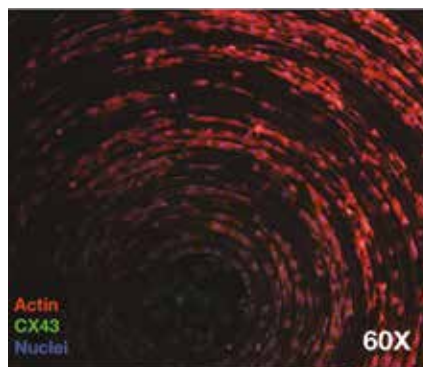
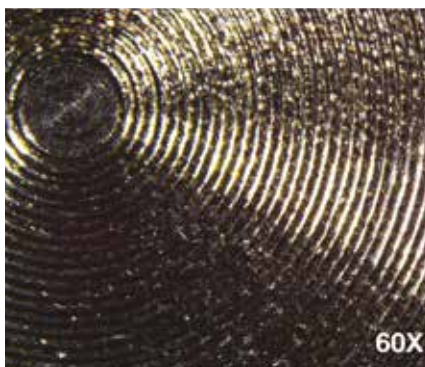
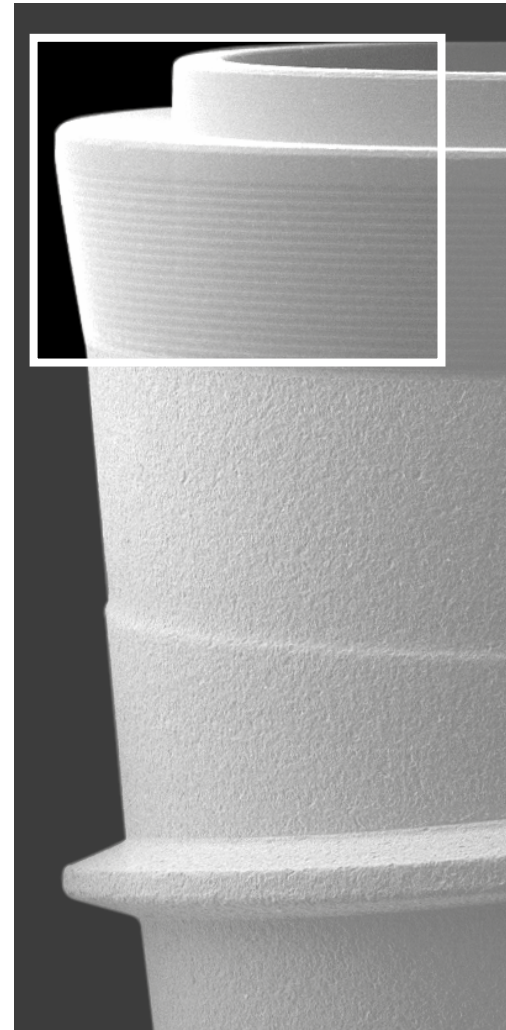


Image of a section of UTM surface obtained using a confocal microscope: the regularity of the micro-threading of the surface can be noted.

The micro-threading on the implant neck provides guidance for the unidirectional cell movement, with the **biological benefit** of rapid activity with low energy consumption, and the consequent **clinical benefit** of a faster healing process and a maintenance of healthy and stable tissues in the long term.



Arrangement of murine myofibroblasts on the UTM surface after 72 hours and observed with fluorescence microscopy - in vitro testing. Thanks to the kind concession of the Dentistry Department of the University of Parma.

ZirTi Surface (Zirconium Sand-Blasted Acid Etched Titanium)

Shelta implants are characterized by ZirTi surface, sand-blasted with zirconium oxide and etched with mineral acids, techniques that give to the surface a characteristic micromorphology capable of significantly increasing the bone-to-implant contact area and promoting osseointegration.

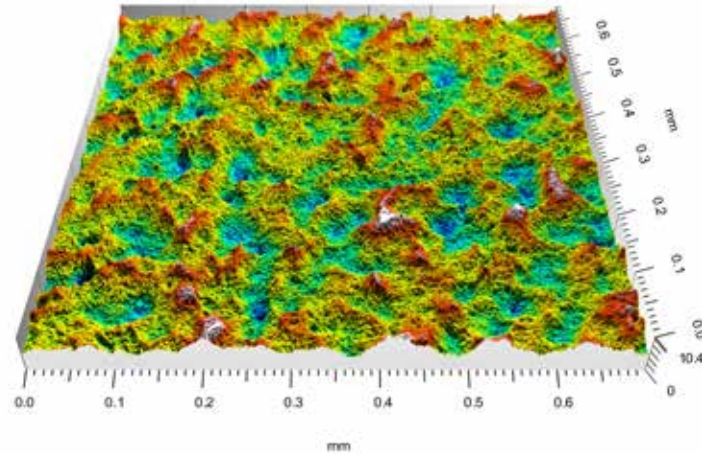
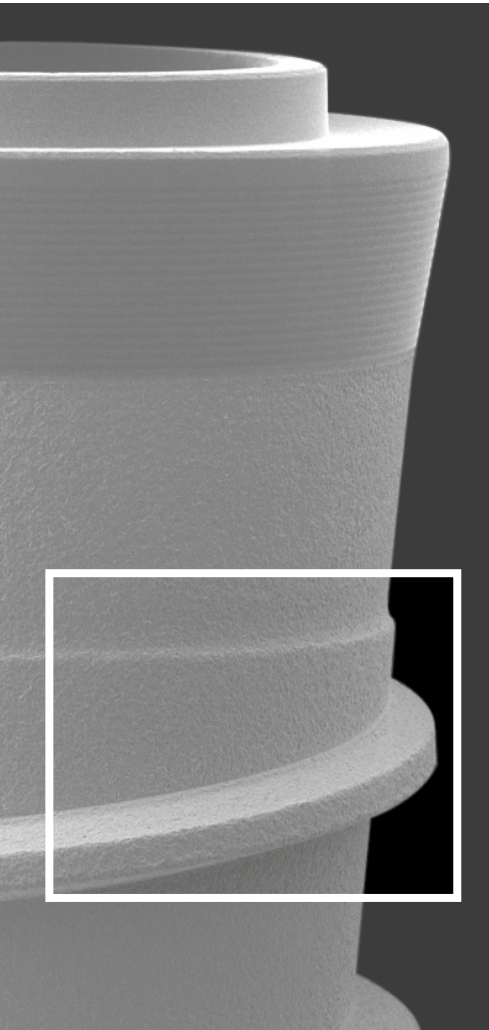


Image of a portion of ZirTi surface obtained using a confocal microscope: the micromorphology of the surface and the regularity of the bone picks deriving from sand-blasting and acid-etching can be noted.

Roughness of the surfaces - Conclusions of the 2nd Consensus Conference EAO

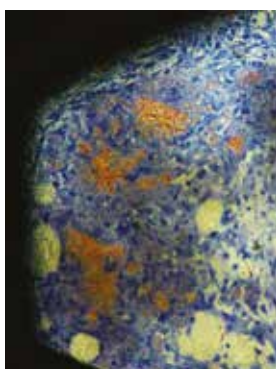
(European Association for Osseointegration), held in Monaco in 2009:

“This review concludes that rough and moderately rough surfaces support a correct osseointegration. The highest level of BIC is associated with moderately rough surfaces (Sa value between 1 and 2 μm).”

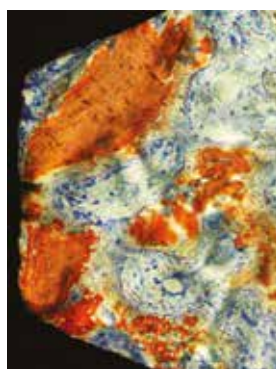
Wennerberg A., Albrektsson T.

Effects of titanium surface topography on bone integration: a systematic review
Clin Oral Implants Res. 2009 Sep;20 Suppl 4:172-84

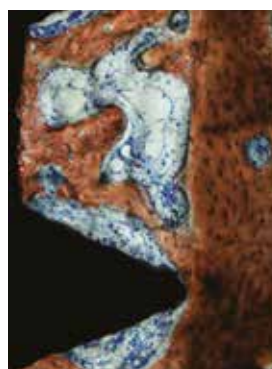
The roughness of ZirTi surface, with its Sa medium value of 1.6-1.8 μm , is considered ideal to achieve osseointegration.



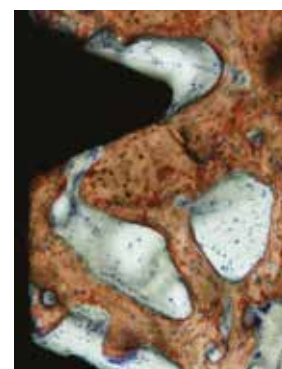
5 days



10 days



20 days



30 days

Sequential healing at implants with ZirTi surface: the new bone can be noted just after 30 days. Histologies by the kind courtesy of Dr. Daniele Botticelli (colored with Stevenel's blues and alizarin red).

Rossi F, Lang NP, De Santis E, Morelli F, Favero G, Botticelli

D. Bone-healing pattern at the surface of titanium implants: an experimental study in the dog.

Clin. Oral Impl. Res. 2014 Jan;25(1):124-31

The validity of ZirTi surface is documented by numerous experimental and clinical studies.



Easy Insert driver

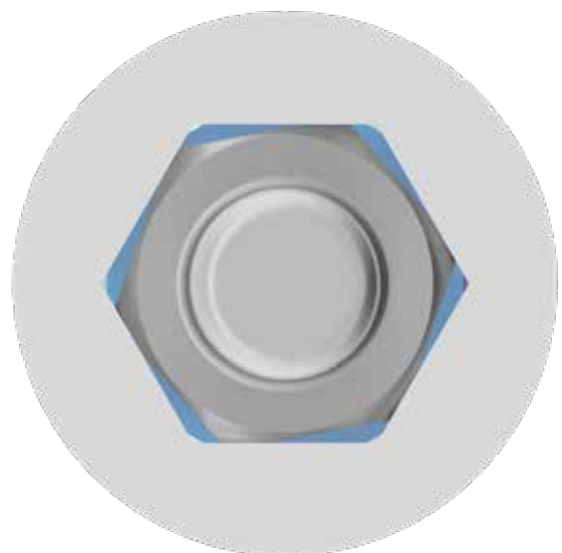
Shelta implants do not require a mounter device because they can be engaged directly inside the connection by practical **Easy Insert drivers**, designed to **guarantee a safe grip**, to prevent deformations to connections and at the same time **to allow easy removal from the internal part of the implant connection**. The use of these drivers makes the surgical procedure of insertion extremely predictable.



- A predetermined breaking point helps the doctor to remove the driver from the implant without difficulty.
- Easy orientation inside the connection thanks to the hexagonal visual indicator corresponding to the hexagon of the prosthesis and to black laser-etched dots on three faces

The special patented design of Easy Insert drivers prevents deformations of the implant connection and ensures that the faces (and not the corners) of the instrument make contact with the faces of the implant hexagon.

The dodecagonal design of the drivers **prevents deformations to the implant connection, thus guaranteeing extremely high prosthetic stability and precision.**

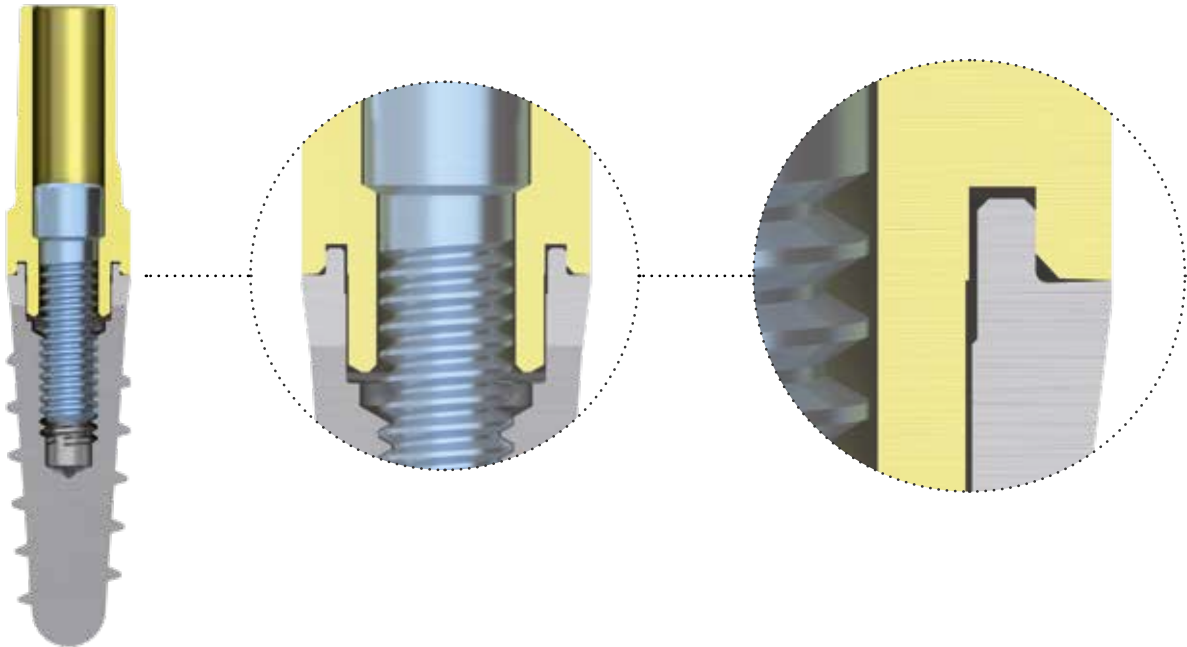


Peñarrocha Oltra D., Rossetti P. H., Covani U., Galluccio F., Canullo L.

Microbial leakage at the implant/abutment connection due to implant insertion maneuvers: cross-sectional study 5 years post loading in healthy patients

Contracone seal

One of the key factors in determining the success of an implant rehabilitation is the **absence of bacterial microleakage**; to achieve this aim there must be no spaces between the platform of the implant and the abutment's edge, where bacteria could penetrate and give rise to anaerobic proliferations which are dangerous for the peri-implant tissues.



Sweden & Martina has patented a **particular micromechanical process** which makes both the implant's and post's edges conical: in this way a mechanical barrier is created, which guarantees a peripheral seal that is able to reduce the access of bacteria and to preserve the peri-implant tissues against possible inflammations.

As all the Sweden & Martina systems, the Shelta implants are characterized by the Contracone seal.

Canullo L., Peñarrocha-Oltra D., Soldini C., Mazzocco F., Peñarrocha M.A., Covani U.

Microbiological assessment of the implant-abutment interface in different connections: cross-sectional study after 5 years of functional loading

Clin. Oral Impl. Res. 00. 2014. 1–9 doi: 10.1111/clr.12383.

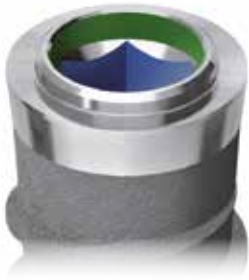
D'Ercole S, Tripodi D, Marzo G, Bernardi S, Continenza MA, Piattelli A, Iaculli F, Mummolo S.

Microleakage of bacteria in different implant-abutment assemblies: an in vitro study

J Appl Biomater Funct Mater. 2014 Dec 19:0. doi: 10.5301.

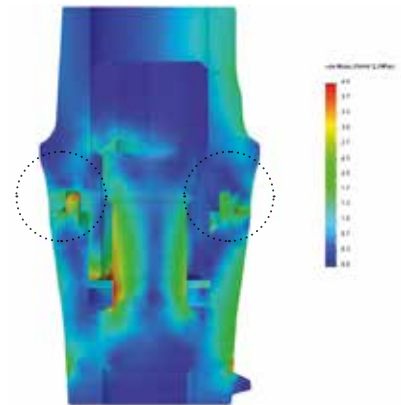
COLLEX Connection

The Collex connection, supported by 17 years of clinical studies, is characterised by a wide internal hexagon, synonym of high prosthetic stability, guaranteed also by the collar that penetrates the posts, giving to the prosthetic structure excellent and unique strength, respecting the correct and fundamental distribution of the masticatory loadings.



The strength properties of the Collex connection are also documented by a study carried out by the group of Prof. Covani, in which this connection was compared with another internal hexagon connection, but without the external prosthetic collar; the results highlighted values 25% higher in terms of robustness and prosthetic stability of Collex compared to the connection without collar.

FEM analysis of a Ø 3.80 mm Shelta implant in connection with a Ø 3.80 mm post: The results show how the collar of the COLLEX works correctly. The collar results therefore extremely important of a correct distribution of the prosthetic load.



Covani U., Ricci M., Tonelli P., Barone A.

An evaluation of new designs in implant-abutment connections: a finite element method assessment
Implant Dentistry Volume 22, Number 3 2013

The Shelta and Shelta SL implants have the same COLLEX connections for all the available diameters. This allows an optimized prosthesis and surgical management, because the same prosthetics and surgical components can be used for all implants for all Shelta and Shelta SL implants.



Shelta Ø 5.00 mm
post Ø 3.80 mm

Shelta Ø 5.00 mm
post Ø 4.25 mm

Shelta Ø 5.00 mm
post Ø 5.00 mm

The biological advantage of the Platform Switching

As demonstrated by literature, there is a relationship between the extension of Platform Switching (mismatching) and preservation of the marginal bone dimensions.

In fact, the greater the mismatch, the greater the volumes of hard and soft tissues around the dental implant. The undeniable advantage of one unique connection, which characterizes Shelta implants, is that it allows choosing the desired level of mismatching based on the aesthetic and functional needs of each individual case.

The Collex connection is the same for all the Shelta implants and this allows to realize the Platform Switching protocols for all the diameters of the Shelta implant system: 3.80, 4.25, 5.00 and 6.00 mm. Thanks to the unique connection of the Shelta implants the Platform Switching technique can be applied: \varnothing 3.80 mm posts can be used with the Platform Switching technique on \varnothing 4.25 mm and \varnothing 5.00 mm implants.



The perimplantary bone reabsorption of implants rehabilitated with the Platform Switching is inversely proportional to the level of mismatching performed.

The validity of the application of the Platform Switching technique is documented by numerous experimental studies.

- Canullo L., Caneva M., Tallarico M.

Ten-year hard and soft tissue results of a pilot double-blinded randomized controlled trial on immediately loaded post-extractive implants using Platform-Switching concept

Clinical Oral Implant Research 00. 2016. 1-9

- Strietzel F.P., Neumann K., Hertel M.

Review article: impact of Platform Switching on marginal peri-implant bone-level changes. A systematic review and meta-analysis

Clinical Oral Implant Research, 2015. 26(3): 342-358

- Annibaldi S., Bignozzi I., Cristalli M.P, Graziani F., La Monaca G., Polimeni A.

Peri-implant marginal bone level: a systematic review and meta-analysis of studies comparing Platform Switching versus conventionally restored implants

Journal of Clinical Periodontology, 2012; 39: 1097-1113

- Canullo L., Baffone G.M., Botticelli D., Pantani F., Beolchini M., Lang N.P.

Effect of wider implant/abutment mismatching: an histological study in dogs

Clinical Oral Implant Research, 22(9), 2011:910

- Baffone G.M., Botticelli D., Canullo L., Scala A., Beolchin M., Lang N.P.

Effect of mismatching abutments on implants with wider platforms – an experimental study in dogs

Clinical Oral Implant Research, Early View, First Published online on 2011. November 2nd

- Della Via C., Canullo L., Allievi C., Lang N.P., Pellegrini C.

Soft tissue surrounding switched platform implants: an immunohistochemical evaluation

Clinical Oral Implant Research, Early View, First Published online on 2011. September 29th

- Canullo L., Pace F., Coelho P., Sciubba E., Vozza I.

The influence of Platform Switching on the biomechanical aspects of the implant-abutment system. A three dimensional finite element study

Med Oral Patol Oral Cir Bucal. 2011 Sep 1;16 (6):e852-6

- Canullo L., Pellegrini G., Allievi C., Trombelli L., Annibaldi S., Dellavia C.

Soft tissues around long-term Platform Switching implant restorations: a histological human evaluation. Preliminary results

Journal of Clinical Periodontology, 2011; 38: 86-94

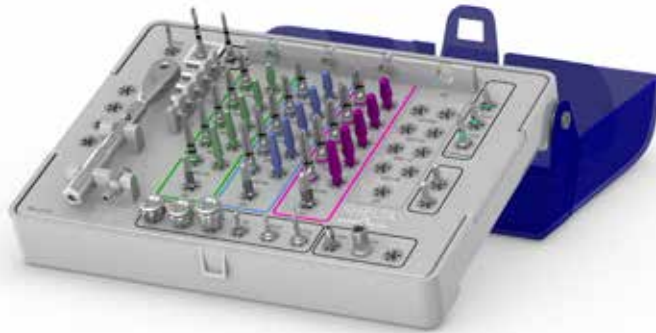
- Canullo L., Rossi Fedele G., Iannello G., Jepsen S.

Platform Switching and marginal bone-level alterations: the results of a randomized-controlled trial

Clinical Oral Implant Research, 21:115–121. 2010

Surgical kit

The Shelta surgical kit, designed and made to offer ease of use and ergonomics, contains all the instruments needed for the surgical and prosthetic phase. The instruments categories are screen-printed on the tray to allow the dental assistants to identify each instrument more easily and to reposition it after the cleansing and cleaning phases.



Precision drill and initial drills with depth stops

- Precision drill to slice the cortical, therefore sharp and cutting.
- Initial drills provided with laser notches to indicate the depth of work and supplied with the relative depth stops.



Final drills and related depth stops

- The geometry of the drill allows much of the bone removed during the preparation of the site.
- The depth stops guarantee a preparation in complete safety.



Replies

- Made of Gr. 5 titanium, they reply the morphology if the final drills of the related Shelta implants.
- Useful to verify the adequacy and depth of the preparation performer with the final drills, as well as to verify the transmucous height thanks to the practical millimeter notches at the base of each reply.
- They can serve as parallelism pin to verify the preparation axis made with the drill.



Echoplan PRO S guided surgery kit

For a guided insertion of Shelta conical implants, Syra and Prama RF

Guided surgery is a technique that includes the phases of: diagnosis, planning and positioning. The surgical kit Echoplan PRO S has been realized to ensure its ease of use and immediacy in the sequence of the instruments.



Drills for guided surgery with integrated stops

The stops of the drills of the Echoplan PRO are already integrated in the drill's morphology. Thanks to this characteristic, these instruments are very practical and guarantee an easier workflow with an optimization of surgical times. The grooves in the body of the drills allow a greater influx of physiological solution within the osteotomy and reduce friction between the drill and the guide sleeve.



Mounter Organizer

Surgery is simplified even more by the availability of the Mounter Organizer, an empty tray that allows the clinician to organize the mounters required for each surgery. The tray also includes places for the implant holding vials that facilitate the assembly of the specific implant mounter dedicated to guided surgery.



The conical revolution

It has been shown that the morphology of the implant prosthetic portion in direct contact with the soft tissues plays an extremely important role in the quality of the healing of the tissues themselves. The **XA prosthetic range** has been specifically designed **to guide and thicken the connective tissue** improving the biotype. Firstly, the space created between the crown, the post, the soft tissue and the bone delimits an area where a greater quantity of collagen will form, increasing the thickness of the tissues and preserving the bone (Chamber Concept, Degidi IJPRD 2013). Moreover the presence of the micro-threads at the base of the post **stimulate the production of collagen** (Contact Guidance Concept, Brunette IJOMI 1998 & Guillem Marti COIR 2012). In addition to this the Platform Switching between implant and abutment, together with the **conical shape of the posts**, facilitates **the stabilization of the circular fibers of the connective tissue at a more coronal level** compared with a standard rehabilitation (Rodriguez, Vela IJOMI 2011; Rodriguez, Vela IJPRD 2016). Stabilization that determines the bone level around the implant, that will maintain itself over time.



The morphology of the XA posts without finish line gives the great advantage of attaching the post when it is exposed in the oral cavity, applying the **One Abutment-One Time** concept thus avoiding subsequent disconnections during the prosthetic phase, that may jeopardize its final successful outcome.

The clinical benefits of using the XA posts are clear both from an aesthetic perspective, with thick and healthy tissues, and from a functional perspective, as the newly formed bone tissue around the implant provides stable integration, giving strength and support to the rehabilitation.



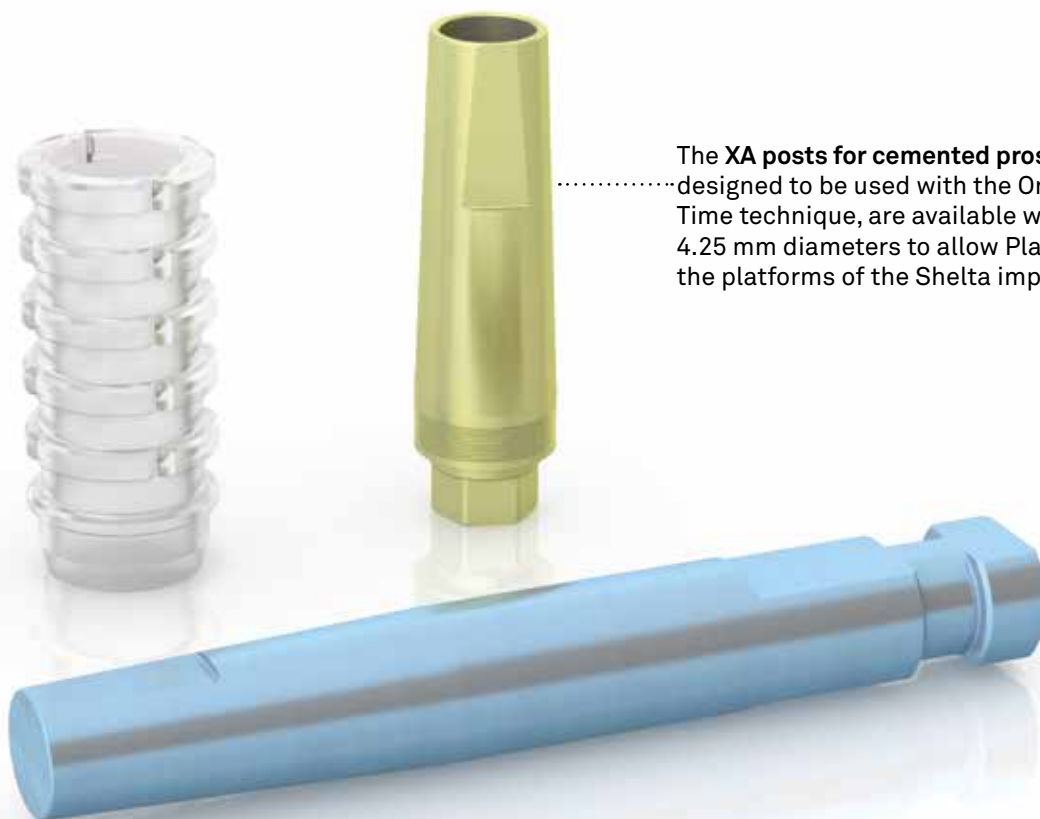
The validity of the XA concept is documented by numerous experimental and clinical studies.

XA range of prostheses

These posts, produced in Gr. 5 titanium, are available in two versions, one for cemented prosthesis and one for screw-retained prosthesis.



The **XA posts for screw-retained prosthesis** have been designed for the **One Abutment-One Time** technique, that foresees their connection to the implants in the patient's mouth never to be removed. They have a connection hexagon, a fixation screw and are repositionable in the implant. In this way the repositioning of the crown on the abutment becomes unique and predictable.



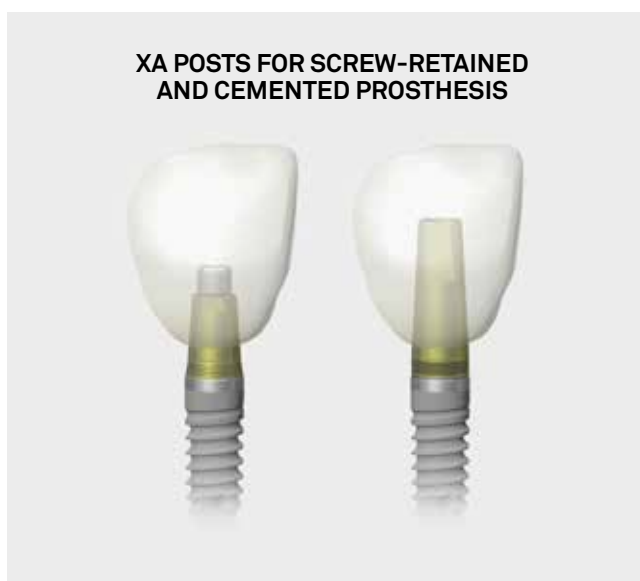
The **XA posts for cemented prosthesis**, also designed to be used with the **One Abutment-One Time** technique, are available with 3.30, 3.80 and 4.25 mm diameters to allow Platform Switching on the platforms of the Shelta implant.

Wide range of prosthetic solutions

Solutions for impression taking, model and tissue conditioning phase



XA pillars for screwed-retained and cemented prostheses



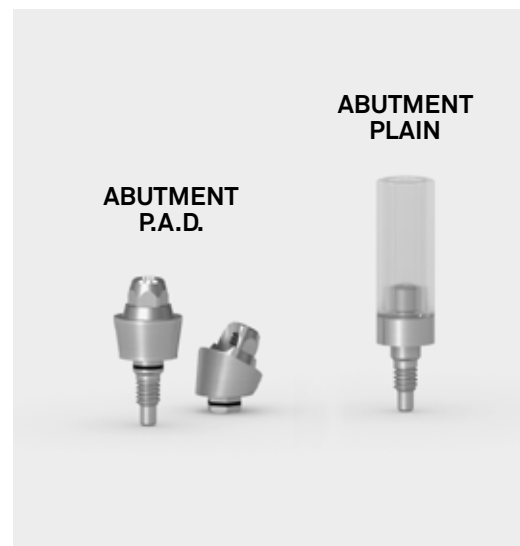
Solutions for single screw-retained rehabilitations



Solutions for single and multiple cemented rehabilitations



Solutions for bridges and full-arch



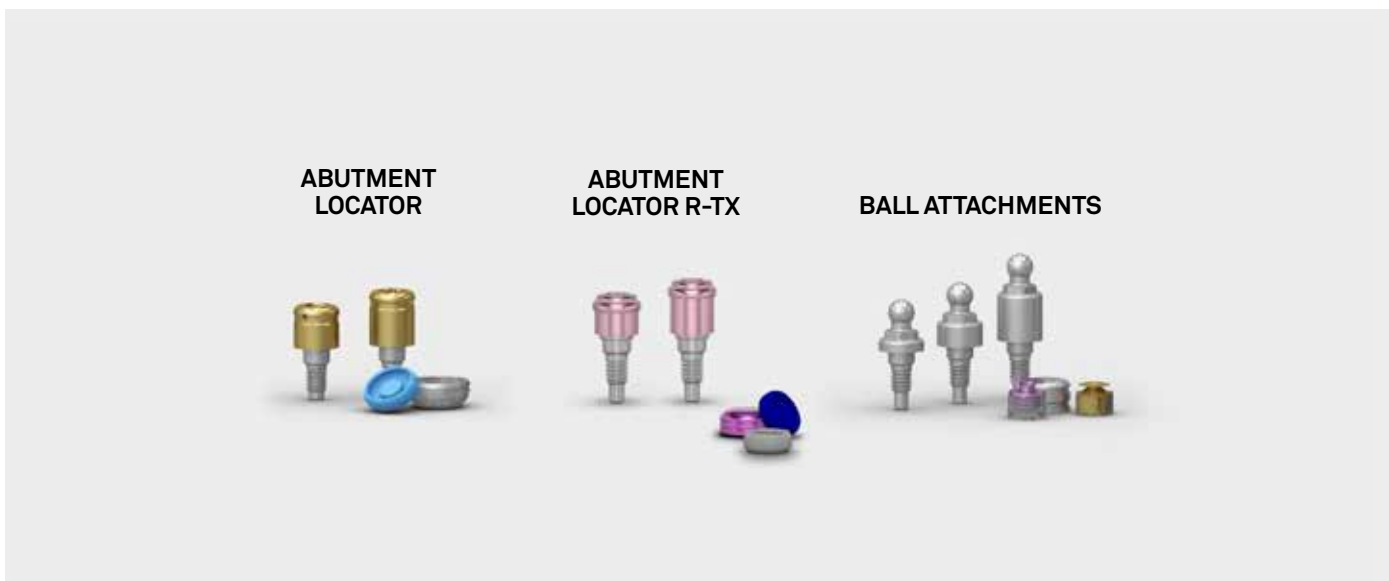
Multiple screw-retained solutions



Solutions for conometric prosthesis



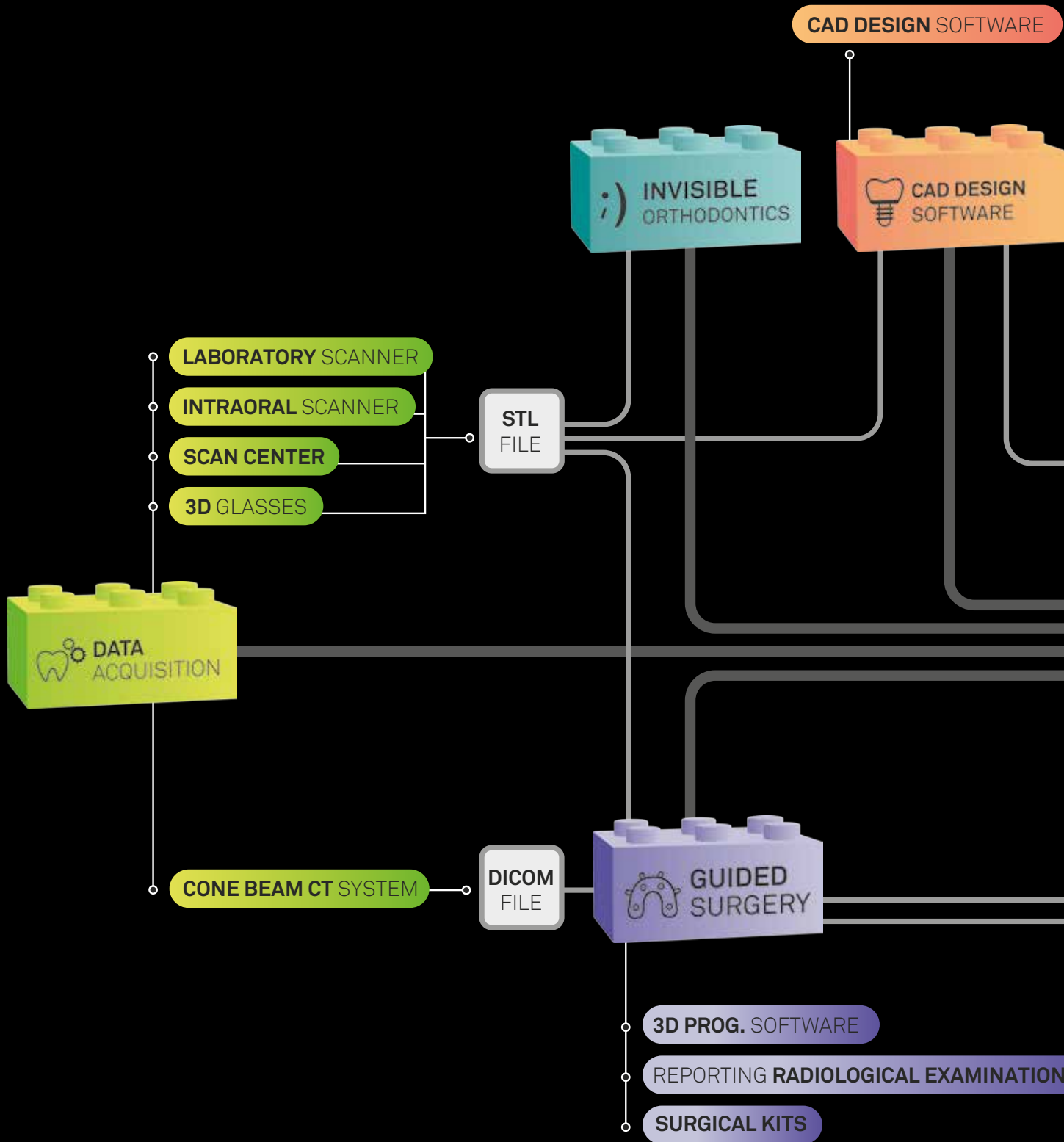
Solutions for overdentures

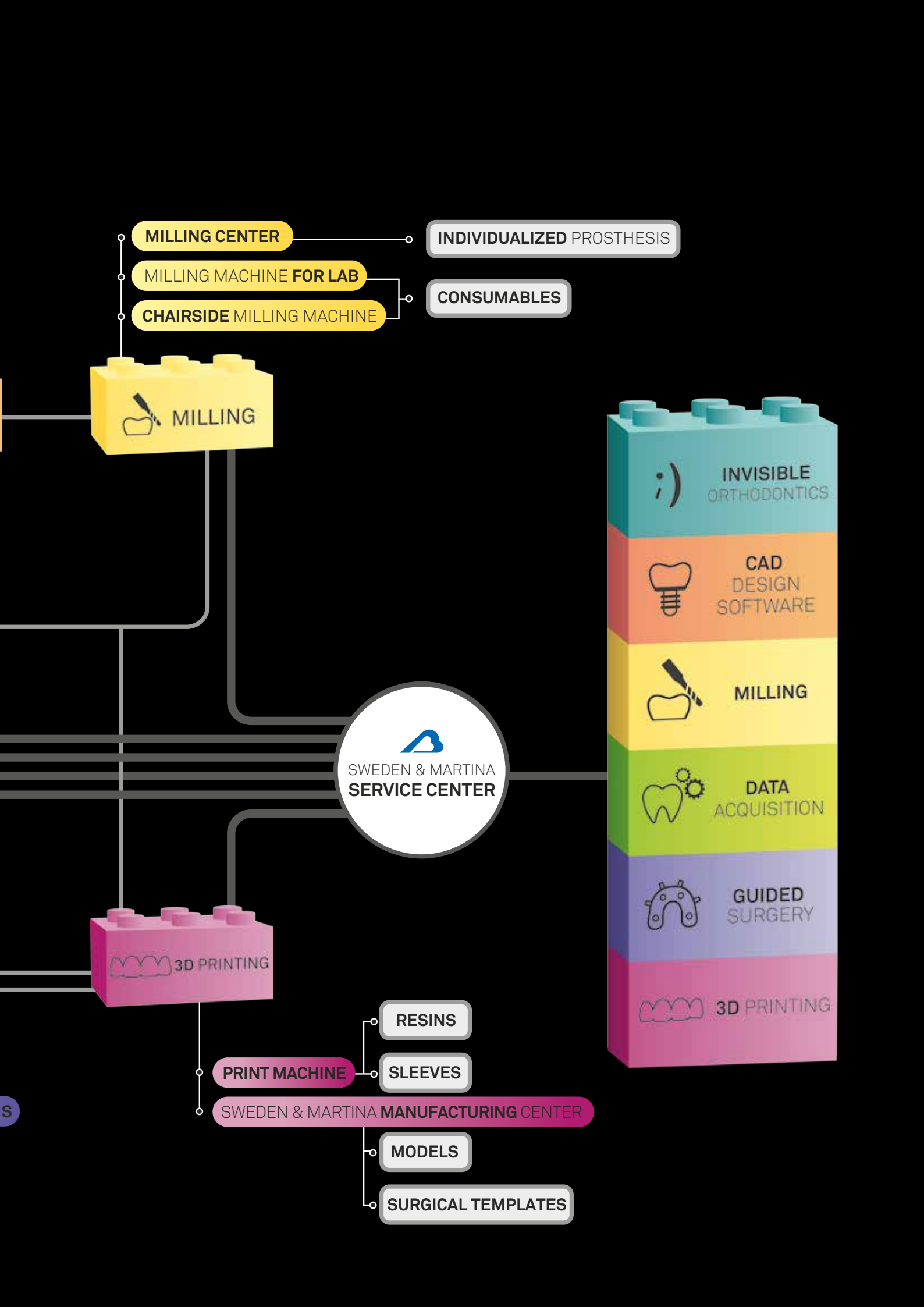


Solutions for custom-made rehabilitations with CAD CAM technique



Create your digital workflow.







rev. 04-22



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