

Company Profile

Who we are

EXPERIENCE AND INNOVATION: THE HISTORY OF EDIERRE IMPLANT SYSTEM S.p.A.

Edierre Implant System S.p.A. is an Italian Company leading in dental biotechnologies.

Born in Genova in 2003 from the experience of a pool of professionals, the Company increased over time its partnerships with bioengineers, surgeons, and clinical dental technicians.

This brought Edierre Implant System S.p.A. along an exciting search path, in order to have state-of-the-art fixtures, surgical equipment and prosthetic parts that are now available for our Customers.

The partnership with professionals is our strength.
Their opinion, advices and requests allow us to grow and improve.

We develop customized projects based on specific requests of our clients. Our Company offers also training courses for dentists, surgeons and dental assistants.

Design of the Implant

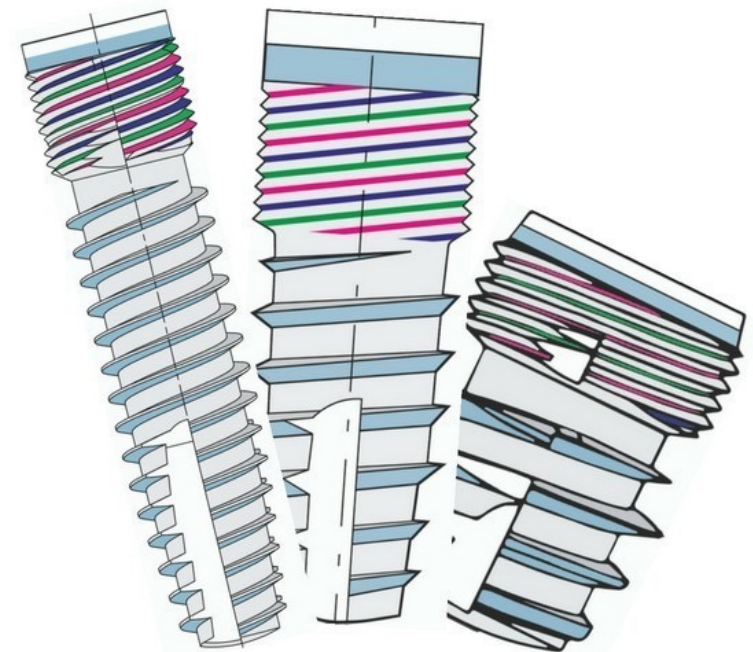
The shape of the implant has a slightly conical form in the apical part.

This has the purpose of enabling better adaptation to the profile of the bony crest that often features substantial vestibular re-absorption, in particular with reference to the maxillary teeth.

The coronal part, on the other hand, is cylindrical, in order to ensure greater primary stability of the implant. The same reason underlies the choice of a threaded fixture.

It has by now been widely demonstrated that one of the greatest critical factors of the success of an implant is primary stability, and that this stability is dependent to a very great extent upon the shape of the implant.

Specifically, the best results mentioned in literature have been achieved with threaded implants



Functions of the thread

- It increases the surface area of contact between the bone and the implant
- It transforms lateral stresses (poorly tolerated by the implant) into vertical forces featuring an apical pattern (the most easily tolerated) thanks to the support provided by the turns.
- It increases retention and primary stability substantially thanks to the self-tapping introduction procedure
- It improves the bone quality, thanks to the action of compressing and condensing of the bone tissue exercised by the turns during screwing.

The Implant Connection

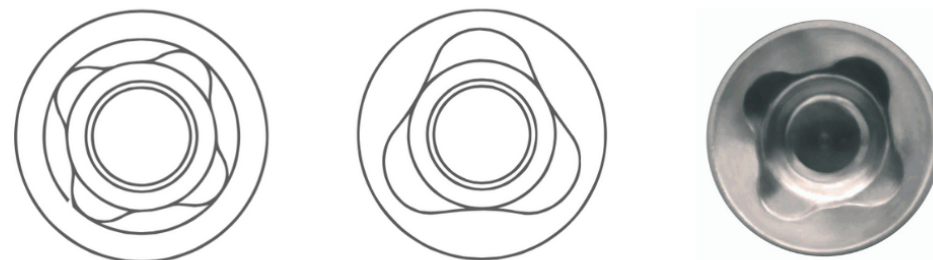
During the years the anti-rotational mechanism of the fixture has been the object of several improvements,

leaving aside the classic designs (hexagon, octagon) and developing towards pure conometrics or its combination with classic solutions.

- The internal connection designed for the Primer SR fixture consists in a smooth joint and a central cylinder which penetrates several millimeters into the implant body; as antirotational element it consists of a four-lobed cam which gives mechanical resistance and stability against lateral loads.
- The coupling between the implant platform and the abutment does not occur with a butt joint but with a bevelled joint. This is the best way to join two metallic surfaces together.
- The solution of a cam-type connection reduces sharp edges in the connection. From a biomechanics viewpoint, two rounded surfaces have higher resistance against lateral loads rather than two flat surfaces that converge in an edge.
- The cams enable the coupling of the prosthetic parts in four positions only, every 90°, offering always safe and easy connection of the prosthetic components in the correct position and reducing the working time.

The coupling fixture/abutment offers a higher performance compared to traditional designs. From a clinical point of view, it is extremely important as it notably reduces the mechanical complications related to the joint.

The connection project was designed by Dr. Nicola Ciampoli, who works for the San Raffaele Hospital in Milan in an advisory capacity.





The Implant Surface



Surface processing of the fixtures calls for two separate stages:
Both stages use advanced technology enabling state-of-the-art specifications to be met.

1. Roughening of the surface: during which the screw is given a controlled degree of roughness
2. Cleaning of the surface: during which all contaminants and foreign elements are removed.

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Surface roughening

The morphology of the surface of Primer SR implants is controlled by a roughing process with acids followed by treatment with bases.

The resulting surface presents a high concentration of oxydrilic surface groups, the importance of which in mineralization processes is recognized in several recent theories.

- The surface roughness is of the order of microns, with a peak-to-peak distance smaller than the size of a cell. The data in literature at our disposal indicate that, regardless of the manner in which it is obtained, this is the best surface currently available for obtaining osteointegration.
- Modification of the surface is carried out by means of a removal process in which no material is added and therefore no potential problems of detachment are generated. Furthermore, there is no sanding, which often causes the presence of residues on the implant surface. Complete removal of process contaminants is ensured by a very thorough cleaning protocol calling for washing in apyrogenous water and decontamination by means of plasma treatment.

Chemical composition

Control of the chemical composition of the surface, in particular in the fundamental stage of the decontamination process, has reached high levels of effectiveness and reproducibility thanks to the introduction of advanced specific processes.



Surface cleaning

The ideal cleaning method should be incapable of reacting chemically with the implant and, at the same time, be very effective in removing any contaminants present on it.

With **plasma cleaning** it is possible to apply this ideal principle.

This technology originated in the world of microelectronics and had been successfully transferred to the field of medical devices.

Plasma cleaning has now been adopted by the leading manufacturers in this field.

Plasma cleaning is carried out in special reactors at a pressure lower than atmospheric pressure, using electrical fields that cause the acceleration of charged particles and partial ionisation of the gas introduced into the reactor. Argon is the gas most commonly used for these cleaning operations, although it is also possible to use air or oxygen.

The devices to be cleaned are placed in a reactor and the plasma is ignited. The material is thus surrounded by an inert gas atmosphere that contains ions, electrons and a whole range of chemical species. Accelerated by the electrical field present in the plasma, these strike the surface subjecting it to genuine bombardment.

The cleaning action is generated by the physical effect of the bombardment, which causes organic contaminants to become detached from the surface and be removed, and enables cleaning to a degree that cannot be equalled by other techniques.

The process parameters can be closely controlled and adapted to the specific material or device to be cleaned, ensuring reproducibility of the effect and very constant quality.

Prosthetic Parts

The Company is able to provide everything necessary for the best prosthetic work.





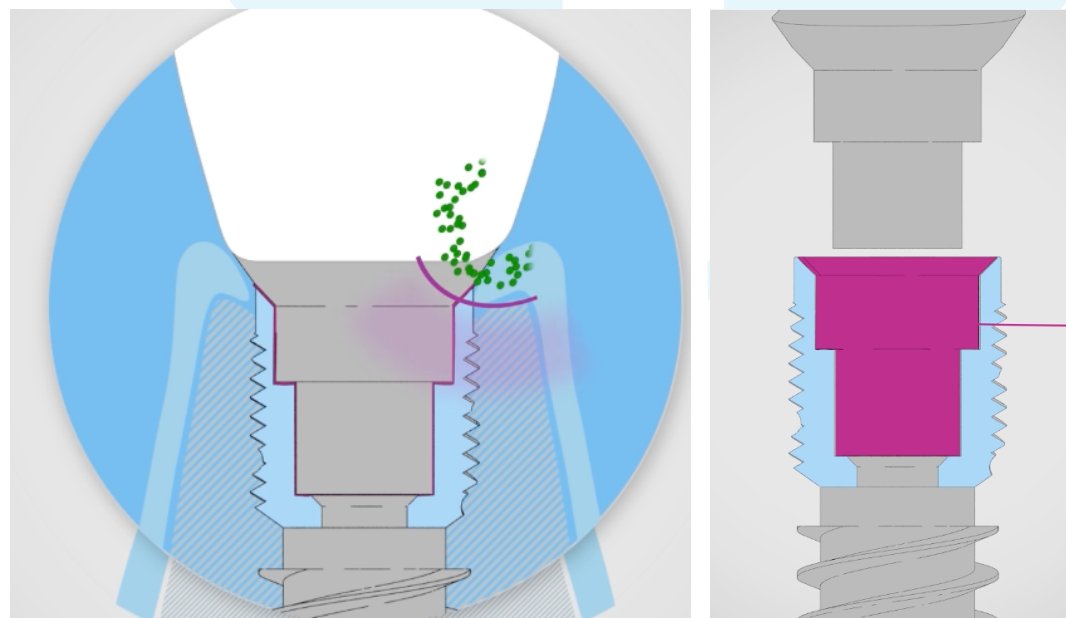
The antimicrobial siloxane coating

PiXit is an antimicrobial film attached to titanium of inner implant chamber. The gap between implant and abutment is sterile and bacteria cannot replicate inside implant neither grow around implant neck.

This medical device is very USEFUL in preventing peri-implantitis, the main cause of implant failures.

This is an Edierre Implant System Patent

An Ethic Committee is involved at present, and our “Pixitted” Implants (Internal connection coating only) will be available soon.



Quality Certification

The system was certified in accordance with ISO 13485, and since then it has been governed by a Quality System in line with the requisites called for in Directive 93/42/EEC for medical devices with regard to design, production and marketing.

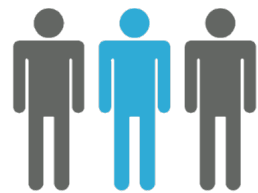
Thanks to its thoroughness and precision in the product design stage, the quality level of its production and of the materials used, and to the checks carried out in each of the various stages up to packaging of the product, the company EDIERRE IMPLANT SYSTEM has obtained CE certification.



What We Do



Traceability



Customization



Communication
with
the patient



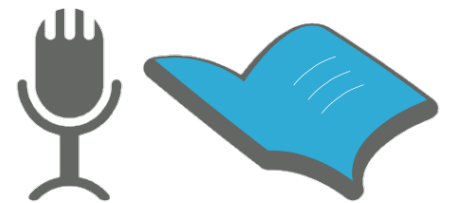
Assistance



24/48 h
Delivery



Studio Assistant
training



Surgeons training
and
courses

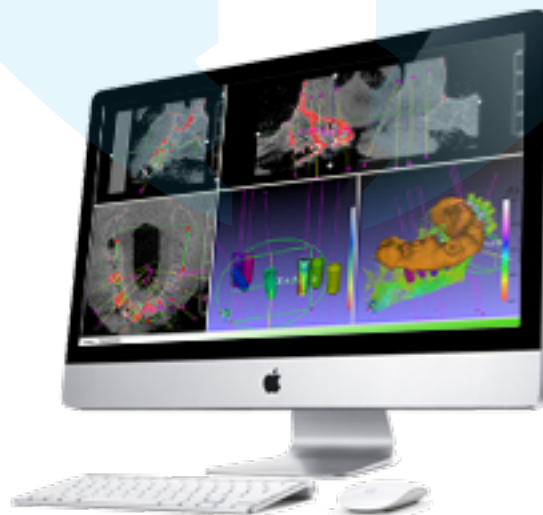


In-service

Smart Service for Computer-Aided Surgery

We offer a service to help you facing the “Digital Era”.
It consists of a productive **work-flow** between the dentist and the Laboratory.
Following our Flow you can save time and money and have beautiful
surgical and prosthetic results.

We are supported by our Partners **GuideMia**,
the design Software easy as you would wish.



Contacts

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