

## ***While the dental implant market is bursting, Anthogyr, in co-operation with Ingénierie@Lyon, innovates to improve efficiency***

***With a better control of the behaviour of new zirconia-based composite features Anthogyr has been able to improve the stability of its ceramics and unlock innovation potential to gain a relevant position at an international level.***

### Supporting Innovation

Zirconium dioxide (ZrO<sub>2</sub>) known as zirconia has been actively used in biomedical contexts, notably the dental sector, for about 15 years, where its use effectively meets the needs of patients in terms of safety and aesthetics.

Through further improvements of both the composition and the manufacturing technique of zirconia-based ceramics, Anthogyr hope to gain more security and more market share.

The innovation consists in extending the implant's behaviour over time without degradation products combined with a production on an industrial scale.

Already established in China and Russia, Anthogyr faces fierce competition. Its ability to offer a range of superior products at an affordable price corresponds to its 'Prime Mover in Implantology' strategy.



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### The client needs

**Anthogyr**, an intermediate-sized enterprise established in the French Alps, wants to effectively meet the challenge of ever-increasing demand in implants at a global level.

For that matter, Anthogyr has engaged in the design, manufacturing and distribution of an extensive range of products for the oral health professionals.

For some products, the enterprise uses zirconia recognised for its biocompatibility, toughness and whiteness properties.

By using a high-quality zirconia powder, Anthogyr possesses complete mastery of the entire production chain to provide supply of products well-suited to complex prostheses in different degrees of translucency and colour shades.

In 2015, the partnership with Ingénierie @ Lyon Carnot Institute is given concrete form with the launching of a common laboratory with Mateis, a Material Science Laboratory based in Lyon. The establishment of such common laboratory has triggered a considerable step towards increasing resistance to water and corrosion of implants (biofluids) through doped cerium rather than yttrium.

Research on the manufacturing process on an industrial scale was carried out in parallel with the development of this new range of composite ceramic.

### Partnership

The MATEIS' team is part of the [Ingenierie@Lyon Carnot Institute](#), a Material Science specialist lab centred on a research approach that blends chemical, physical and mechanical simulations applied to medicine, transport and energy mechanisms.

The lab aims to reveal, through experimentation and modelling, the technical relationships between the recipe, the microstructure and the physical properties of both metals and polymer-derived ceramics and composites.

Internationally recognized for the commitment and high standard of the work of its researchers, it has been able to boost Anthogyr's innovative capacity from a technological perspective as well as in terms of economics.

Within the context of the LEAD\* common Lab, a Speciality Appliances Dental/Orthodontic Laboratory, Mateis and Anthogyr have pooled their expertise to acquire the knowledge and skills of information and technologies necessary, in additive manufacturing especially, and a renewed vision for the approach to dental implant therapies in the future.

Worth more than EUR 46 million, Anthogyr employs more than 330 people in France and 420 globally, and devotes 8% of its revenue to R&D. For Anthogyr the R&D partnership with the Carnot Institute has become a key component in stepping up growth through innovation of a complete range of associated products and services.

\*LEAD = Laboratoire d'Excellence en Application Dentaire