



Fig. 1



Fig. 2

## Harnessing the advantages of ceramics

**High aesthetics, strength, great biocompatibility**—zirconia is a material that offers a wide variety of benefits for implant patients. However, zirconia also has its limitations and it would be foolish to overlook them. By developing an entirely new production material, the implant manufacturing company Argon Medical has addressed these limitations. At IDS 2019, Richard Donaca, head of the Germany-based family business, spoke with *ceramic implants* about their new ceramic implant system.

**Mr Donaca, at the IDS 2019 you presented a new ceramic implant. What is unique about it?**

The material we have developed for our new ceramic implant system is compounded according to a patented formula. The special feature is that it has a synthetic content and, thus, also a certain elasticity is given. This is very important to us because elasticity allows us to achieve a higher tensile strength. In general principle ceramic is extremely stable—even more stable than titanium. However, there has always been the following problem: when loading forces beyond a certain maximum limit act on the ceramic, the material tends to break rather than relocate or trap the loads. We have taken on this problem in the development of our new system. The new material allows us the elasticity that is needed in our field, whereas this material also works extremely accurate and is also used

in measurement springs. The material is already certified as a class III product. Its origin is from the medical sector and has not yet been harnessed in the dental field. Of our new ceramic implant product range, there will initially be a one-piece version with different diameters. However, the implants will be available soon as a two-piece version. In my opinion, we are at the forefront of this technology as we start with a diameter of 3.3mm and then go up to 4.3mm and 5.3mm.

**How does the implant–abutment connection of your new system look like?**

In order to achieve the desired tightness, we have chosen a one-degree cone, which ensures the connection between implant and abutment. On the bottom of the abutment is the so-called “nose”, which connects the implant with the abutment by spreading the flanges of the nose with a firm click. In addition, there is a screw-in stabilising pin, which ensures that the implant components are connected to each other. The one-piece system will be released around April or May. The two-part system will be ready for the market a bit later, probably in the summer, because we are currently analysing three materials for the abutments. Manufacturing the abutment out of the same material as described earlier would be one option. In addition, it is possible to make it from polyether ketone ke-

