“It is fantastically simple!”

In this interview, Vanik Kaufmann discusses the advantages of KaVo’s new ARCTICA CAD/CAM system.

When it comes to state-of-the-art CAD/CAM technology in dental laboratories, patients are in good hands with master dental technician Vanik Kaufmann-Jinoian. His numerous lectures on the subject are impressive proof of this. The proprietor of the Cera-Tech dental laboratory in Liestal near Basel has been a CAD/CAM user from the very beginning, as well as provided valuable input into the technology’s development through his active participation in it. Recently, he became a user of KaVo’s new ARCTICA CAD/CAM system. We asked him about his first impressions of working with the system.

**CAD/CAM:** You recently started using KaVo’s ARCTICA CAD/CAM system. You have extensive experience with CAD/CAM systems. What do you consider ARCTICA’s advantages to be?

**Vanik Kaufmann:** First, there is the striped light scanner. I particularly like that it is a semi-automatic design. With fully automated systems, I often encounter problems with cumbersome re-scans when the first scan was incomplete. Scans that require essentially no corrective work can be achieved with very little experience. In addition, it works extremely quickly. Even in cases in which the scan shows gaps, the model can be repositioned accordingly, perhaps by tilting, and the software applies any subsequent corrections automatically.

And what are your experiences with the grinding unit?

I really appreciate that it is a compact five-axis system that uses blanks very economically. Furthermore, I am finally able to process metal, something that until now had not been possible with small systems.

Is zirconium dioxide still important nowadays?

There are still dentists who request metal frameworks. When cobalt–chromium alloys are required, we have them externally made by selective laser sintering. When biocompatibility is required, we have to use titanium. We process a large number of titanium connecting bars and until now had to have them fabricated externally.

Now, we are able to do this in house, and the design is simple and fast using the accompanying software.

How practical is the software?

It is fantastically simple. For example, during the design of an anterior bridge, the automatically proposed crown can be moved and rotated through key combinations, making the process considerably faster and simpler than with solutions that require multiple key clicks. Also, its operation is intuitive: within half an hour of receiving it, I was able to do a bar design without a hitch and without any training. KaVo’s hotline with remote support is equally fantastic and useful, especially in the early stages when one might have the occasional problem. The consultants are highly competent, they can log in remotely and point out mistakes on your own screen and give hints on how to do things even faster.

The multiCAD dental CAD/CAM software has an open interface, but not every scanner supplier offers an open interface. To what extent can you transfer data?

We are able to do this not only with manufacturers that provide STL files, but also with those that still believe in the advantages of proprietary systems. We use Dental Shaper for Rhinoceros (CIMsystem) for this purpose; it can convert all relevant data sets to compatible STL files. One could also use a printer (Solidscope).

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**Fig. 1** Completed milled connecting bar with screwed locators fabricated in the ARCTICA Engine.

**Fig. 2** Two connecting bars with implant connectors milled from a titanium block.

**Fig. 3** A range of materials is offered: ARCTICA Elements of titanium, zirconium, glass-infused ceramics and plastic; in addition, an exchangeable holder offers the option of using third-party materials.
Do you use ARCTICA data in multiCAD as well?
Yes. We have decided to no longer do the wax coating for precious metal castings by hand, as this can be done very simply and quickly in the KaVo software. We design the framework on computer and transfer the STL data directly to the printer. The printer is very accurate and saves us a great deal of work.

Besides KaVo’s blocks of titanium, zirconium, glass-infused ceramics and plastic, there is the option of using other materials. Do you use them?
We have the open system and do both. Alongside KaVo’s materials, we use VITABLOCS RealLife and VITA CAD-Temp blocks (both Vident). We fabricate our own plastic and wax blocks too, which we can use via the exchangeable holder.

Could you share your experience with the implant module in multiCAD?
We fabricate connecting bars from titanium with bonded bases. We also use titanium bonded bases for our zirconium abutments, since we have had bad experiences with whole zirconium abutments with screw connections—they loosened over time. For lateral applications, we also fabricate titanium abutments, which we weld to the bonding base. The design of these abutments too is amazingly simple: one draws what one has in mind.

Thank you very much for the interview.

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