



DIGITAL WORKFLOW

LIVE DEMO @DETAX 3D AREA



9:30 - 18:00

Live Scans & Vorstellung der Druck-/Nachbelichtungssysteme im validierten FREEPRINT® Workflow Scanning, modelling, supporting, slicing, printing, cleaning, post curing

DETAX >> EXPERT TEAM



Markus Stratmann
3D Application Manager



ZT Sergi Kühn
Anwendungstechnik



ZT Stefan Schüller
Anwendungstechnik



ZT Benjamin Mros
Anwendungstechnik



SCAN

Digitization of the patient's initial situation is the basis for the digital manufacturing process. It is done using an intraoral scanner, or by scanning the model. Using the data thus generated, a three-dimensional surface structure is generated – mostly in the form of an STL file –, which can then be transferred to a design software.



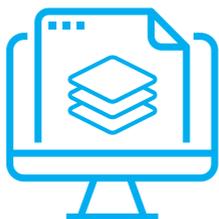
MODELLING

Highly automated CAD programs are used for the planning and construction of the objects to be printed. Interfaces for 3D X-ray or DVT X-ray data allow, for example, the planning of implants and the design of drilling templates. Software solutions provide a cross-platform workflow for dental laboratories, dentists, implantologists and surgeons.



CREATE SUPPORT

Support structures are required for sensitive areas in order to physically implement the component by 3D printing. Special tools are available to this end; all you still have to do is to select the appropriate style. The support software is already integrated in many printers. Certified processes between DETAX and the printer manufacturers ensure validated printing processes.



SLICING

After completion of the design (CAD), the slicer prepares the objects for printing. The slicing process creates the individual layers to be exposed. The slicer software serves as an intermediary between the 3D model and the 3D printer.



PRINTING

For a precise print job, the parameters of the corresponding material stored in the printer are necessary. These data are used not only to control the exposure process for the material, but also to determine the corresponding movement mechanics of the printers. Coordination of these processes is the prerequisite for successful DLP printing of challenging structures.



CLEANING

After printing, the non-polymerized material on the surface must be removed so as to leave no residue before the final post-exposure. Drain the component off in the printer, then carry out a 2-stage secondary cleaning with isopropanol in an ultrasonic device. Cleaning can also be carried out in suitable separate devices.



CURING

The properties of the final product depend, among other things, on the finishing process. Correct post-exposure is very important for biocompatibility. To ensure that the printed structures are fully cured, post-exposure in devices with LED lamps or xenon flashlight in an inert gas atmosphere is recommended.



FINISHING

Finally, the surface is finished as required, e.g. mechanically polished. Perfect fit, optimal product properties and reliable reproduction are the results of a validated and certified process.