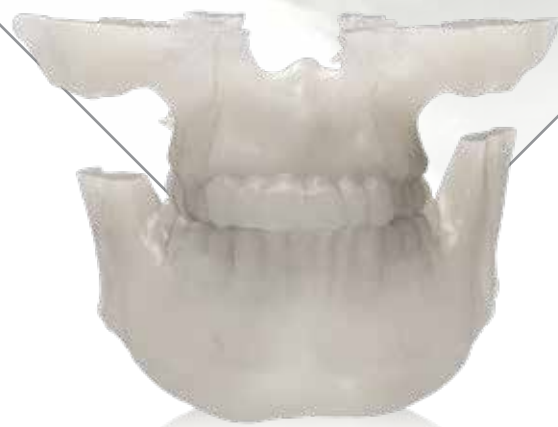


DIGITAL DENTISTRY
CUSTOM-MADE DEVICES



CUSTOM-MADE
MODELS
3D-MODEL



SEGMENTATION
AND PRODUCTION SERVICE
OF BONE MODELS WITH HIGHEST
3D PRINTING RESOLUTION

visit btk.dental

FOLLOW US ON 



CUSTOM-MADE MODELS 3D-MODEL

From a CT or CBCT scan, 3D-model service provides the segmentation and production of patient bone model.

Models are patient reproductions in plastic material. They are printed by prototyping technique with a High resolution 3D-Printer.

The use of a semitransparent material permits the localization of the most important anatomical bone structures: for example alveolar nerves, maxillary sinus, incisive foramen, submerged tooth, dental implants. They are custom made products.

FEATURES

- 100% DIGITAL WORKFLOW
- HIGH DIMENSIONAL PRECISION
- HIGH RESOLUTION 3D-PRINTING
- SEMI TRANSPARENT PLASTIC MODELS
- 1:1 SCALE






PRODUCT TYPE

PARTIAL MODELS

They represent only the left or the right side of the jaw.

TOTAL MODELS

They represent the full arch of the patient (both left and right side of the jaw).

	TYPE	DESCRIPTION	CODE
	MODELING SERVICE TOTAL BONE MODEL	From the segmentation of the patient CT/ CBCT BTK can provide only a STL file of the model.	909NA001
	MODELING SERVICE PARTIAL BONE MODEL	This file can be printed directly with a 3D-printer in your lab or in your dental practice.	909NA002
	UPPER JAW TOTAL BONE MODEL (MAXILLA)	It represents the bone anatomy of the upper jaw of the patient. It includes: - Alveolar process - Frontal nasal bone - zygomatic process - intraorbital hole - incisive foramen - palatine process - maxillary sinus floor - medial and lateral lamina of the pterygoid process	C42SP00.00
	UPPER JAW PARTIAL BONE MODEL (LEFT OR RIGHT SIDE OF THE MAXILLA)		C44SP00.00
	LOWER JAW TOTAL BONE MODEL (JAW)	It represent the bone anatomy of the lower jaw of the patient It includes: - mandibular body - mandibular angle - mental nerve - mylohyoid line - mental spines - sublingual fossa	C43SP00.00
	LOWER JAW PARTIAL BONE MODEL (LEFT OR RIGHT SIDE OF THE LOWER JAW)	NOT INCLUDED: temporo-mandibular joint (condyle)	C45SP00.00

The anatomical structures described above are included in the model only if they are recognizable and included in the exam field of view.
The DICOM quality from CT/CBCT affects the model segmentation. BTK cannot reconstruct with adequate precision (accurately) areas affected by scattering or artifacts.

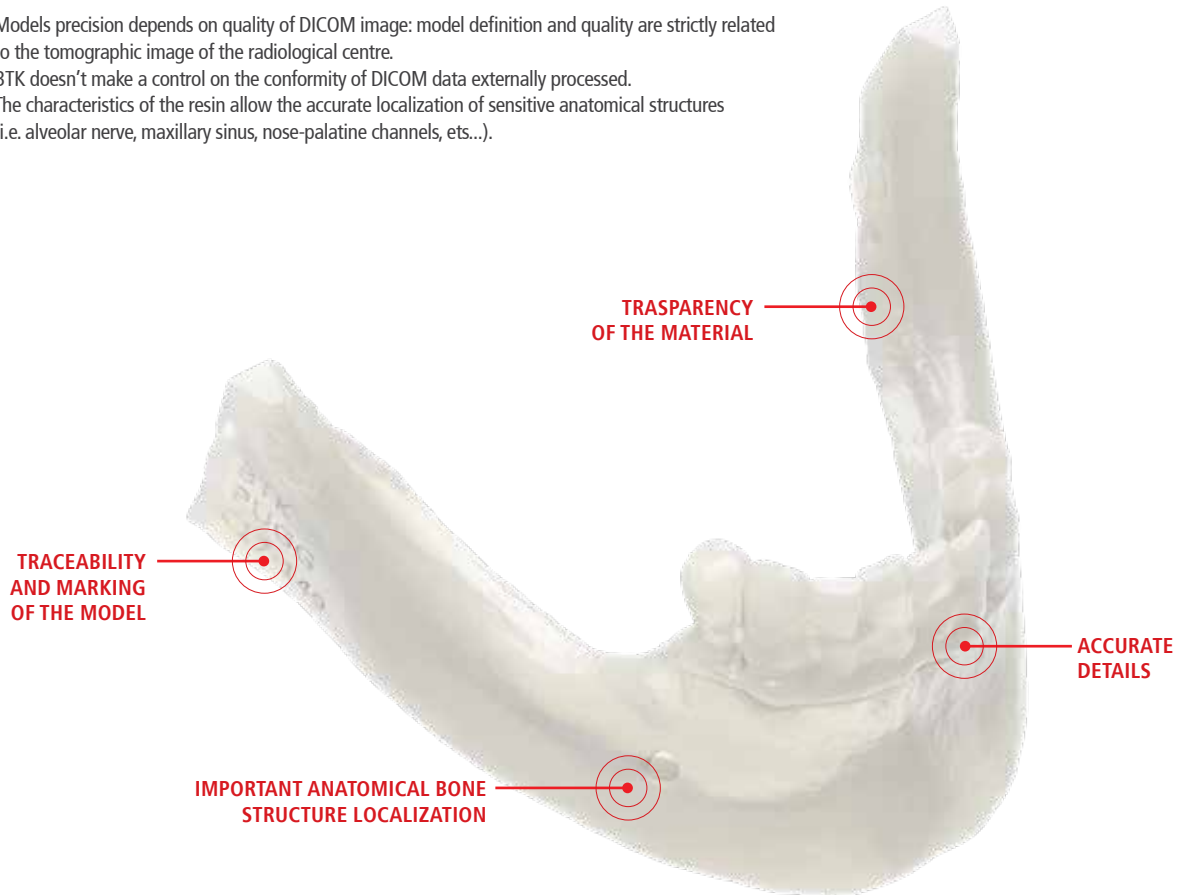
DIGITAL 3D PRINTING WITH 3D-PRINTER

Thanks to the fully digital workflow, BTK can obtain models from the CT/CBCT exam. With 3D-printing process it's possible to realize, from STL files, models with very high precision and quality.

Models precision depends on quality of DICOM image: model definition and quality are strictly related to the tomographic image of the radiological centre.

BTK doesn't make a control on the conformity of DICOM data externally processed.

The characteristics of the resin allow the accurate localization of sensitive anatomical structures (i.e. alveolar nerve, maxillary sinus, nose-palatine channels, ets...).



WHY CHOOSE 3D-MODEL

COMMUNICATION WITH PATIENT

The 3D model provides a great help for the communication with the patient and in explaining the treatment plan.

"TO HOLD IN YOUR HAND"

The 3D model permits the study of the clinical case and the analysis of the real patient condition, without the use of diagnostic software for see the exam.

MODELING DEVICES BEFORE SURGERY

The detail of the bone model, in 1:1 scale, allows accurate measurements of the area of interest and the modeling of surgical guides, meshes, grafts adapting them to the patient's real anatomy.

HELP IN DIAGNOSIS AND IN SURGICAL PLANNING

The bone model production can be required in order to study the surgical case. In particular the reconstruction of alveolar nerves and maxillary sinuses can help the clinician in the explanation of some surgical techniques to the patient.

SURGERY SIMULATION

Before surgery, it is possible to recreate an operation such as a sinus lift or dental implants insertion. In addition, doctor can use the 3D model to show prosthetic components or attachments for removable prostheses. The device is also very useful during the surgery because it gives objective indications on the patient's anatomy.

DIGITAL WORKFLOW BTK 3D-MODEL



PATIENT'S EXAM: CT OR CBCT

The model is segmented from the patient's tomographic examination and DICOM acquisition. It's not necessary that the patient wears a radiological guide, but it's recommended that the arches are divided, possibly with an index.



SENDING DICOM FILE TO BTK

The DICOM file is sent by the clinician to the BTK TEAM. Doctors can ship the CD with files or use the Web, through a dedicated online page: <http://upload.btk.dental/btk3d>. BTK team control if the image is clear (absence of scattering and artifacts in the area) in order to perform the segmentation process.



VIRTUAL MODEL ELABORATION

The BTK team performs the segmentation of the patient exam, obtaining a **three-dimensional virtual file** that reproduces the volume.

The result is sent to prescriber doctor for approval.

If requested, BTK can provide to the doctor only the STL file of the model. Doctor can produce the model directly with a 3D printer in his dental practice or in his lab.



3D PRINTING

BTK produces the model through an high-performance 3D-printer

(slice thickness: 32um). The accuracy of the models ranges from 0.025 to 0.5 mm.

This value may vary depending on construction parameters, geometry and dimensional of the item.



CLEANING, PACKAGING AND SHIPMENT

The 3D model is cleansed by an ultra-sound machine, controlled and packaged for the shipment.

<http://upload.btk.dental/btk3d>

Immediate uploading of the DICOM file of the patient's tomography.



For more INFO write to: btk3d@btk.dental

FOLLOW US ON



CUSTOM-MADE MODELS

Segmentation and production service of bone models
with highest 3D printing resolution.

**100% DIGITAL,
100% CUSTOMIZED.**

**IT MEETS THE EXPECTATIONS
OF CLINICIANS AND PATIENTS.**

**CONTROLLED AND VALIDATED
PRODUCTION PROCESS.**

**STATE OF THE ART PRECISION
AND CUSTOMIZATION.**

**< 50 μ m
OF TOLERANCE**

**100% DIGITAL
WORKFLOW**

**TECHNICAL
SUPPORT**

**PRE-OP
VIEW**

**COMMUNICATIVE
TOOL**

BTK PERSONAL TUTOR

A program for individual case planning and execution supported by experienced professionals in order to leverage know-how and maximize clinical experience with the aim to achieve sustainable high patient satisfaction rates.

BTK is always at your disposal for any request for further follow-up or information, promoting periodic and ad-hoc training course.

CERTIFIED QUALITY SYSTEM

**BIOTEC is certified UNI EN ISO 9001
and UNI EN ISO 13485.**

MADE IN ITALY USED GLOBALLY



We constantly ensure that the quality of our products and services meet the high expectations of our customers and their patients. Specialized professionals are taking care to offer comprehensive solutions in applied research, engineering, education and related activities.

