AI Based Dental CAD Solution
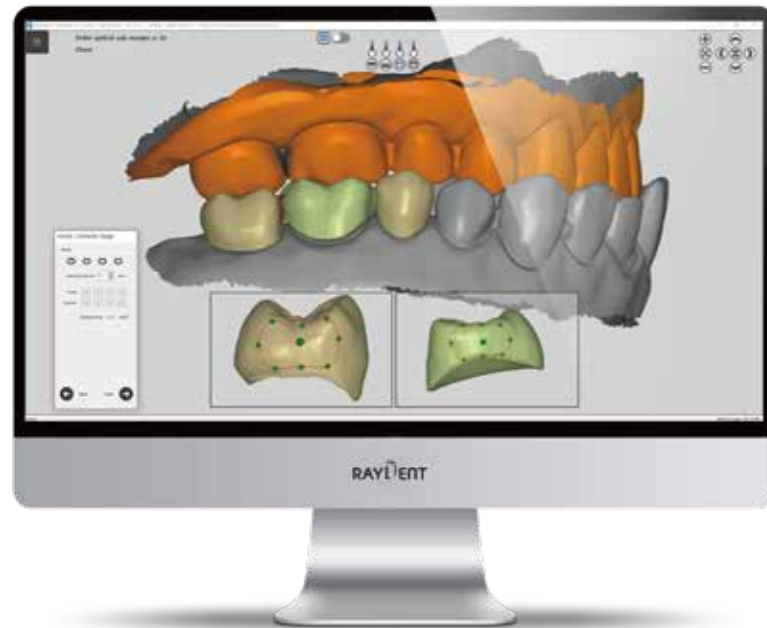
RAYDENT CAD

Ray

RAYDENT designer AI
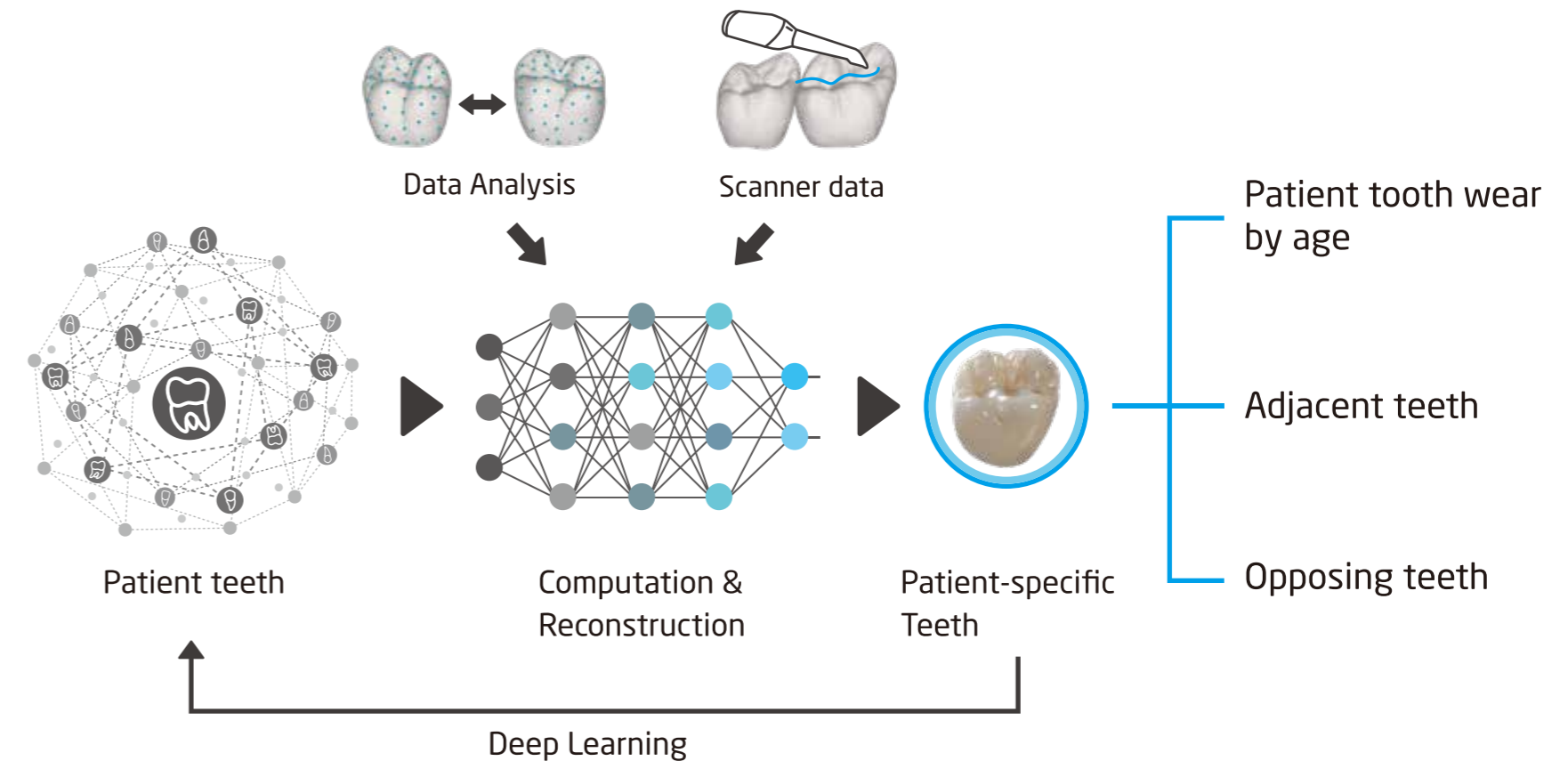
AI-driven patient-specific crown design

Anyone can easily design crowns in the dental office.

- Automated crown, inlay and onlay design
- All shapes of crown design possible using automated
  AI including Incisor, premolar, and molar
- Automatic margin detection by only two clicks
- Variety of possible applications: Crown, Bridge, Inlay/Onlay,
  Provisional crown & bridge, Crown shell, Veneer, Coping,
  Diagnostic wax-up, Simple SCRP, and Model builder
- Occlusal adjustment feature (automatic or manual modes)
- Add user crown library
- STL export possible in any of design step
- Support exporting of standard STL file and milling file
- Connected to RAYDENT Studio (3D printer)
- Can be utilized by both dental offices and dental labs

Automated Crown Design Concept Using AI

AI crowns are designed by patient tooth wear by age
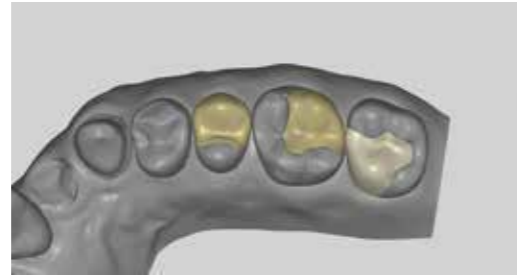and shapes of antagonist and adjacent teeth.

Data Analysis   Scanner data

Patient teeth   Computation &   Patient-specific
                 Reconstruction   Teeth

Patient tooth wear by age

Adjacent teeth

Opposing teeth

Deep Learning

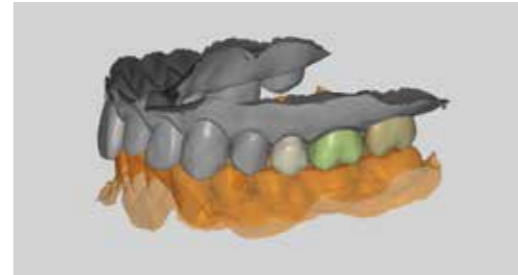# Various Prosthetic design support

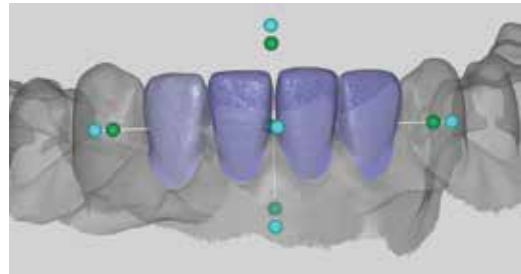Dental offices and dental labs can use RAYDENT design AI for their prosthesis.
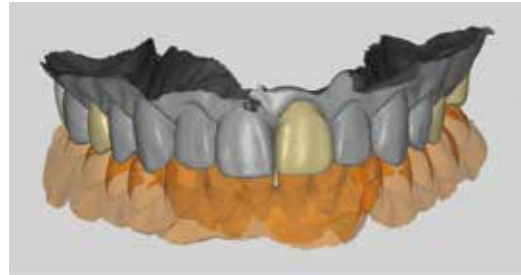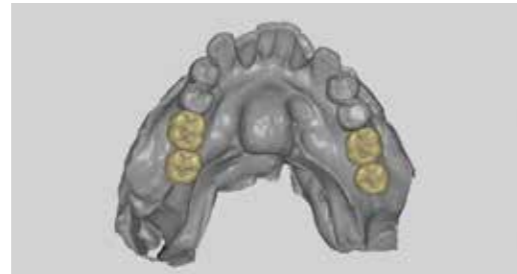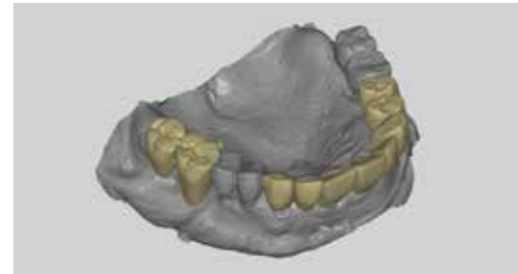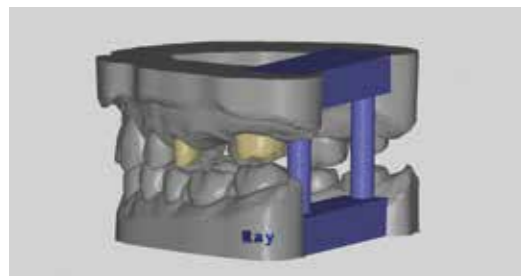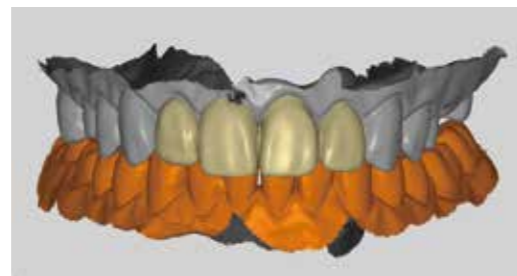

Crown/Coping (AI)

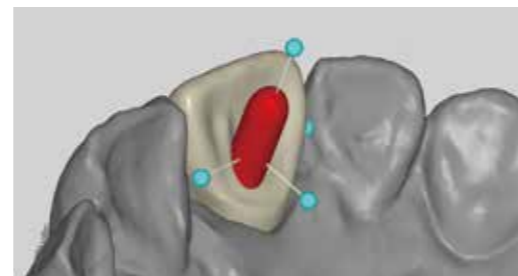Inlay/Onlay (AI)

Bridge

Provisional Crown/Bridge
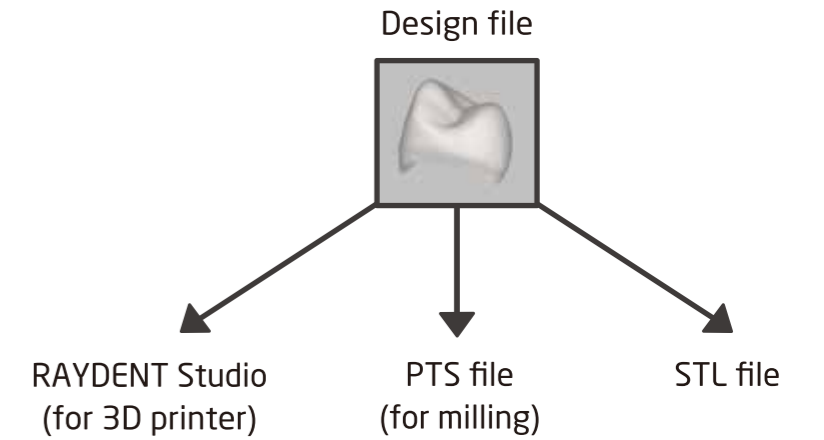

Crown shell

Diagnostic wax up

Model builder

Veneer

Simple SCRP

Various Export options

- Print the designed prosthesis directly by
  RAYDENT Studio (3D printer).
- Milling the designed prosthesis by PTS file.
- STL file export and save available for
  all designing steps.

Design file

RAYDENT Studio
(for 3D printer)

PTS file
(for milling)

STL file

Useful Utility Tools

- Automatic / manual occlusal adjustment
- Diagnostic wax-up for prosthetic driven
  implant planning
- Add user crown library
- STL file editing
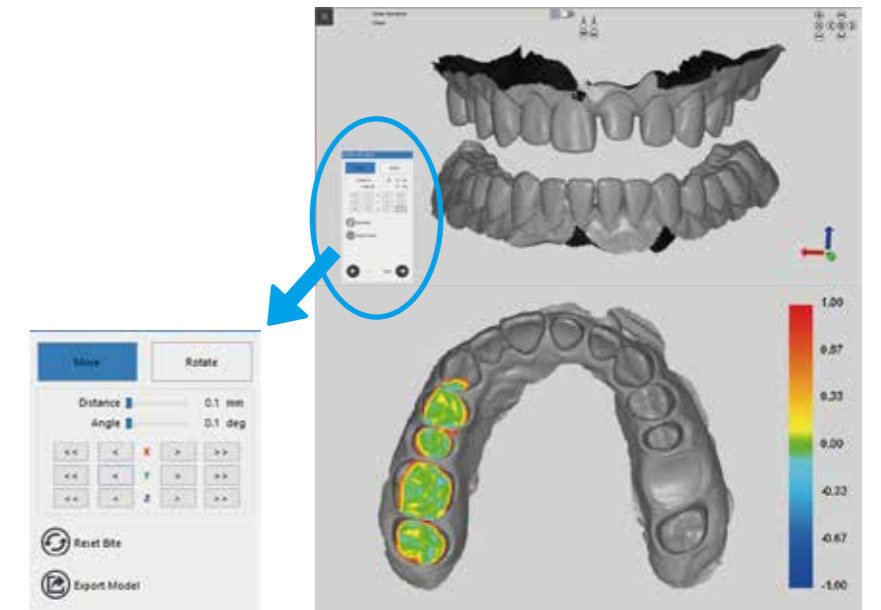
Occlusal Adjustment (automatic / manual)

RAYDENT splint

Easy-to-Make Dental Splint

RAYDENT splint allows designing for splints by referencing patient condyle, night guards, crown lengthening guide.
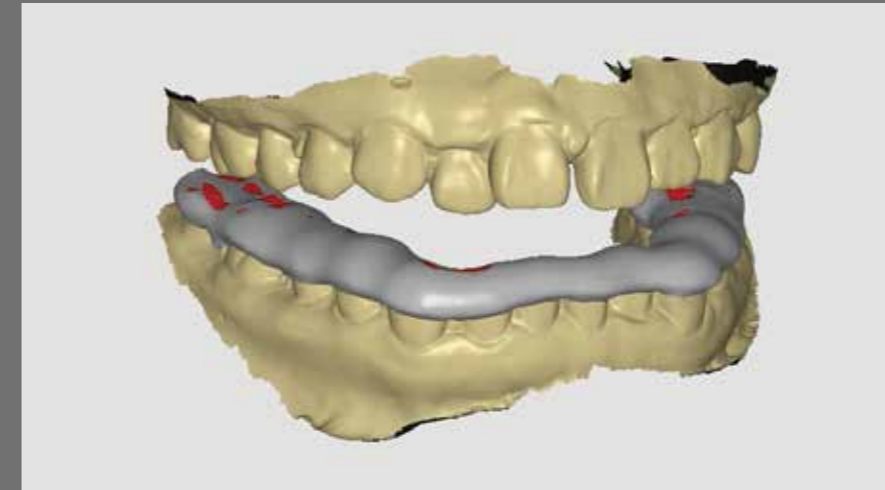

- Occlusal bite simulation
- Hinge axis setting referred by patient ceph
- Mouth opening range setting
- Standard STL file

Dental splint   Crown lengthening guide

Dynamic Bite Simulation

Mandibular jaw movement can be reproduced by patient condyle from ceph.
Interference regions are automatically removed during the mandibular jaw movement.

Mouth Opening Range Setting

Mouth opening range can be adjusted by patient condyle from patient ceph.

RAYDENT tray

Simple Made Customized Patient Tray in Dental Office

Easy-to-follow workflow allows custom tray in dental offices.

- Easy and fast personal tray fabrication
- Compatible with Ray DIGITAL TRAY™
  (CT Impression scan enabled)
- Standard STL file
- Gutta Percha hole library for implant surgical guide
- For diagnosis and model fabrication
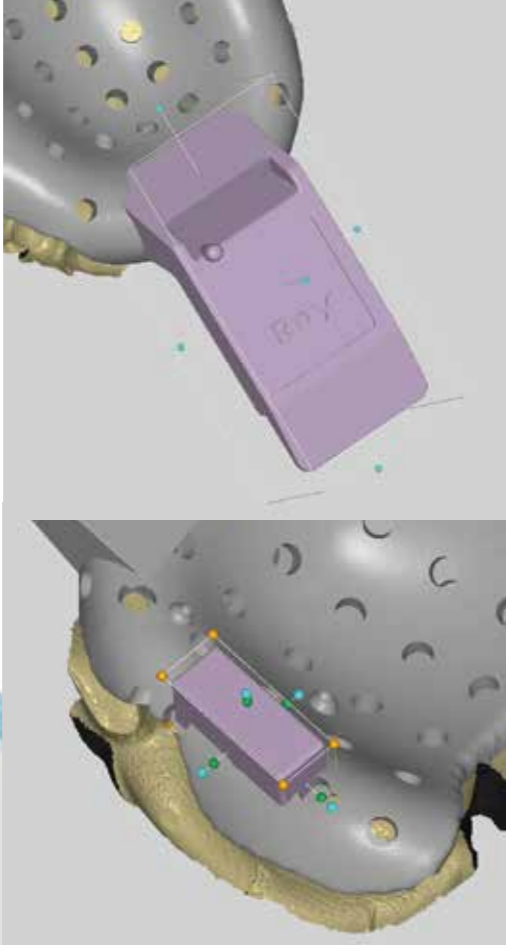- Final impression tray for full denture cases

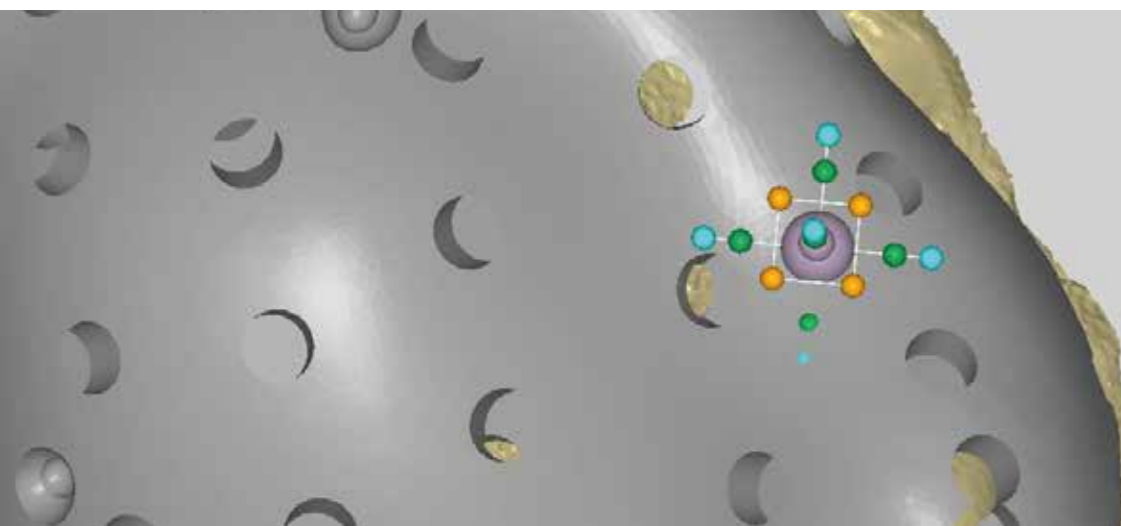Teeth whitening tray

Variety of Tray Shape Design

Different tray designs for various purposes such as Implant prosthesis,
full denture, and precise impression.
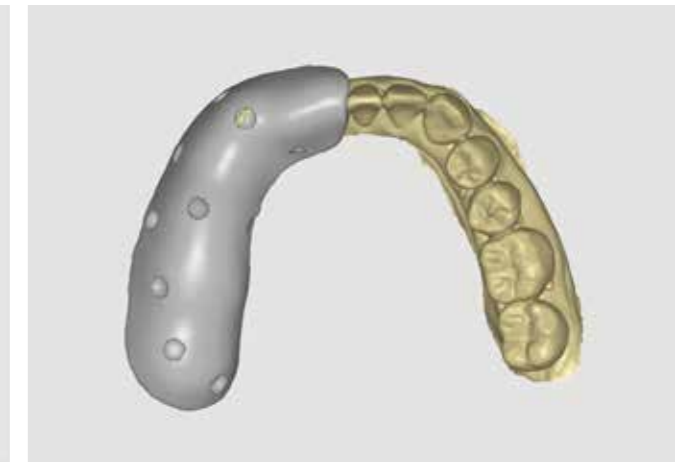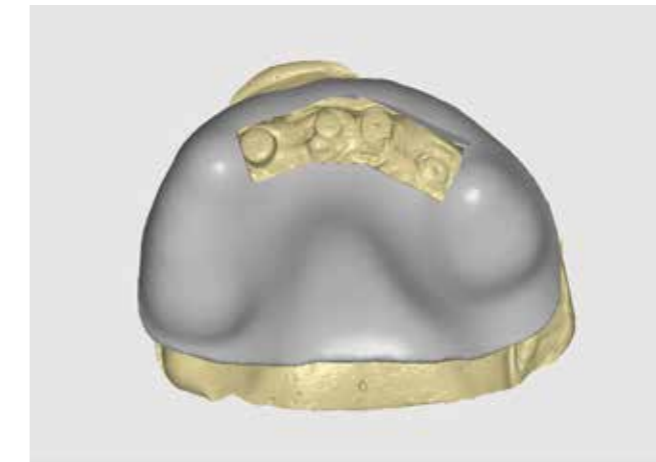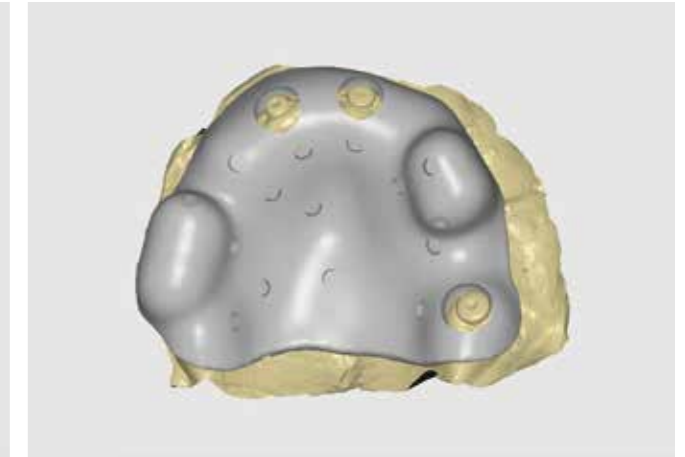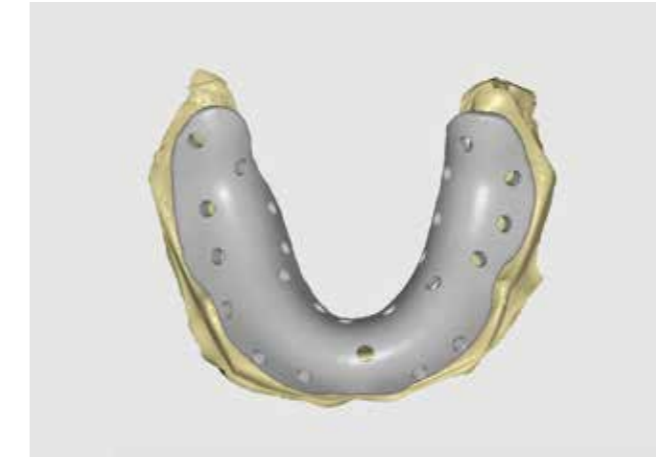
Utilizing Various Design Library

Various types of design libraries are available for use, including the libraries for Ray's CT impression scan jig and auxiliary handle.

Gutta Percha Marker

Gutta Percha markers can be used to match CT data and STL files during implant surgery planning.

System Requirement

	Minimum Specifications	Recommended Specifications
CPU	Intel 7th Gen Core i5	Intel 7th Gen Core i7
RAM	4GB	8GB
Graphic Card	NVidia GeForce GT840, 1GB Intel HD 620	NVidia GeForce GTX840, 2GB Intel HD 620
HDD storage	500GB	1,000GB
Operating System	Windows 7 64bit sp2	Windows 10 64bit
Monitor Resolution	1366x768	1920x1080

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