Cefla s.c. - Via Selice Provinciale 23/a, 40026 Imola - Italy
Tel. +39 045 8202727 - 045 583500
info@newtom.it www.newtom.it

Cone Beam   3D Imaging
NewTom
what's next

THE DNA OF A LEADER

Guaranteed NewTom
image quality

Certain, immediate results

Versatile, user-friendly
NNT software

Self-adaptive technology

Attention to patient health

Affordable
high performance

Minimum X-ray doses

Optimal workflow
and shared results

THE MASTERMIND OF CBCT IMAGING

NewTom
MASTERMIND
In CONE BEAM 3D IMAGING

Top-level 2D/3D imaging

NewTom, a pioneering implementer of CBCT 3D technology in the dental-maxillofacial field, now offers dentists an extraordinary opportunity. This is NewTom GO, an affordable yet excellent device that is perfect for surgeries looking to adopt a reliable, high performance 2D/3D tool of outstanding quality.

GO
2D/3D

ALL THE POTENTIAL OF NEWTOM 2D/3D

NewTom GO is an affordable, versatile 2D/3D unit, designed by NewTom to extend the diagnostic capabilities of all dental practices by combining the best 2D performance with the most innovative 3D technology.

NewTom diagnostic quality
Cutting-edge image acquisition technology and advanced NNT software guide the dentist towards precise, accurate diagnosis.

Minimum X-ray doses
The ECO Dose (2D ECO Pan, 3D ECO Scan protocols) and SafeBeam™ functions allow emissions to be adapted to effective diagnostic needs, thus safeguarding patient health.

Certain results
Device ergonomics and software efficiency ensure perfect results every time whatever the diagnostic requirements.

Complete connectivity
Images can be exported and shared, both inside and outside the surgery, for digital storage and treatment implementation purposes.

2D **3D**

GO
2D/3D

NEWTOM GO, THE PERFECT CHOICE

Thanks to its innovative technology and extremely high performance software, NewTom GO represents the best 2D/3D choice for even the most demanding dentists.

IMAGING EXCELLENCE

3D Imaging

Impeccable 3D. The Adaptive-FOV system allows users to set the field of view that best suits patient build and anatomical area of interest: the accurate images and realistic rendering provided by the analysis software ensure improved diagnostics and allow immediate treatment planning, which can also include implant simulation.

2D Imaging

A multiplicity of 2D functions and programmes ensure pin-sharp images of the utmost quality that are perfect for a broad range of treatment needs. The MultiPAN function provides - with just one scan - a set of 5 panoramic images, letting users choose the one best suited to the specific diagnostic needs; the ApT function, instead, gives autoadaptive - and, therefore, evenly sharp - panoramic images.

Minimum dose

NewTom GO combines maximum image quality with the lowest X-ray doses. Pulsed emission CBCT technology considerably reduces the X-ray dose needed for the scan; autoadaptive functions and specific ECO protocols allow emissions to be adapted to patient build and diagnostic requirements.

NEWTOM KNOW-HOW

Image chain

The image acquisition phase is entrusted to a pulsed emission high frequency X-ray generator and a single 16 bit sensor for 2D and 3D images. Complete, latest-generation technology at the service of dental diagnostics.

Autoadaptive functions

NewTom GO has autoadaptive features that are employed during both image acquisition and image processing. Special filters automatically compensate for alterations generated by artifacts or problems associated with patient morphology, thus guaranteeing sharp detailed 2D and 3D images.

High resolution imaging

NewTom GO provides extremely detailed 3D images (up to 80 μm), making even the smallest anatomical details visible.
Dentists can thus make use of a wealth of information, necessary to make a clear diagnosis and decide on the most suitable treatment.

GLOBAL PERFORMANCE

All-in-one software solution

Image acquisition and processing is managed by a single, powerful software programme: NNT. Fully designed by NewTom. NNT has a number of protocols, both 2D and 3D, that optimise the scan and visual efficiency, streamlining both diagnosis and decisions as to the most suitable treatment.

Image management and sharing

NewTom GO is able to communicate with both surgery management and third party systems. Utilisation of a virtual control panel during image acquisition, image management and processing able to be executed from different workstations, detailed reports and remote technical assistance all mean that NewTom GO integrates perfectly into surgery workflows.

Specialist applications

NewTom GO is the perfect device for implantology, endodontics, periodontics, maxillofacial surgery and X-ray specialists. High quality images and dedicated protocols, in fact, respond to the specific needs of several professional profiles.

Image quality is an indispensable factor in making a secure diagnosis. That's why NewTom invests in innovation that leads to solutions of ever-higher performance.
NewTom GO features advanced acquisition technology, ensuring images of outstanding quality.
Moreover, specific algorithms and protocols ensure optimal focusing and excellent detail.

Image chain

The NewTom GO image chain is the result of many years' experience in the imaging sector.
The latest-generation native 16-bit sensor (just one sensor for 2D and 3D) captures thousands of shades of grey to provide ultra-high resolution images much faster than is possible with dual sensor devices.
The high frequency, pulsed emission X-ray generator can be finely adjusted; it offers a broad choice of parameters and always ensures - thanks to automatic exposure control - the most suitable setting and maximised diagnostic quality.
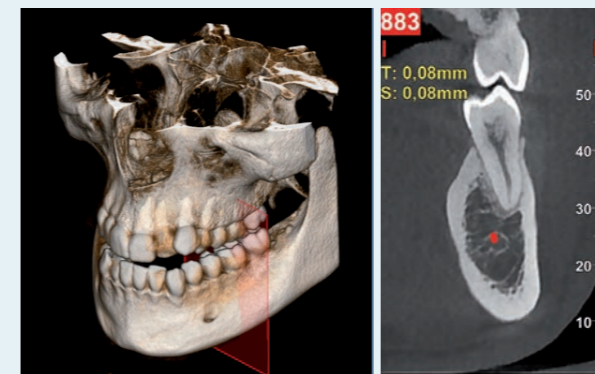
HiRes function

For in-depth studies of anatomical details, the NewTom GO HiRes function allows users to obtain ultra-high definition images with a voxel size of 80 μm, also with a native 10x10 cm FOV and an ECO scan of just 9.6s.
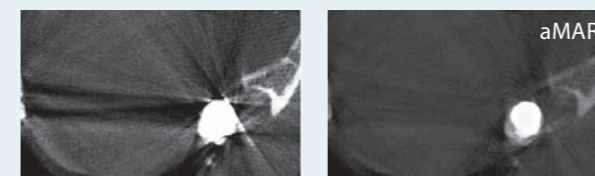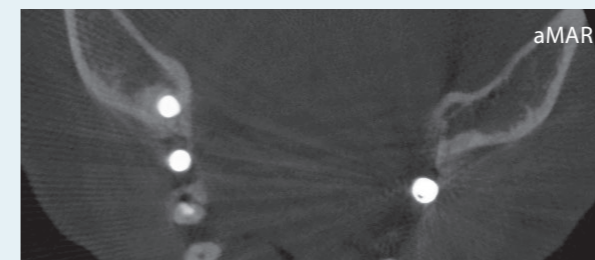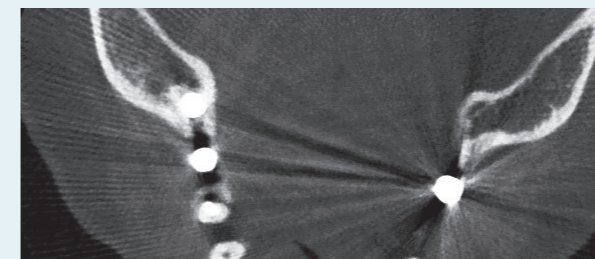
aMAR function

The innovative aMAR (Autoadaptive Metal Artifact Removal) function is a proprietary algorithm (Patent Pending) developed by NewTom which can reduce the metal artifacts generated by amalgam or implants that can compromise image quality. aMAR acts automatically and proportionally to the quantity, dimensions and number of elements that cause artifacts, generating an additional set of images that automatically improves the 'yield' of the displayed 3D images, adding a viewpoint that aids simplified processing and allows even more effective communication.
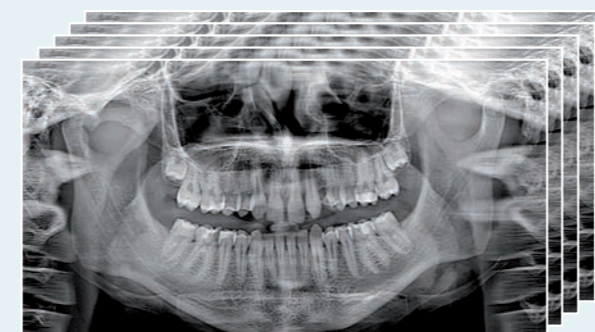
MultiPAN function

With a single scan, NewTom GO generates a set of five panoramic images corresponding to different focal planes; users then identify the one that best suits their diagnostic needs.

ADVANCED 3D DIAGNOSTICS

Sensor

The 2D/3D native 16-bit sensor
allows image acquisition
with 65,536 grey levels.

NewTom GO provides highly detailed 1:1 scale volumetric images and all the advantages of dynamic 3D investigation.
Eight FOVs and 4 acquisition modes place no less than 32 3D programmes at the user's disposal.
The Adaptive FOV system lets users select the region of interest from the complete limited-volume 10x10 cm field
to reduce the exposed area. Four different scan modes (high or very high resolution, low or very low X-ray dose)
allow emissions to be adapted to effective diagnostic needs.

## Complete adult dentition
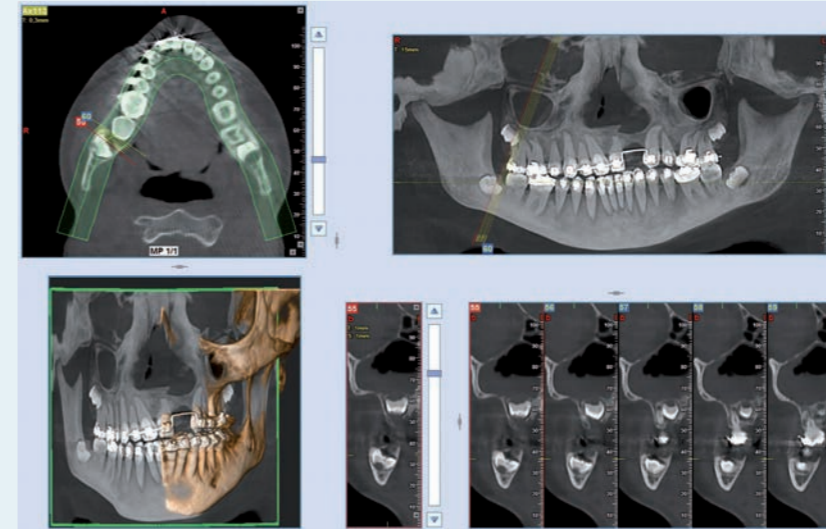
10x10

The complete 10x10 cm FOV has an image breadth that is highly suitable for acquiring and displaying upper and
lower third molar relationships with the entire dentition in adults, without image quality being affected by
metal-caused artifacts or amalgam.

## Complete child dentition

8x7
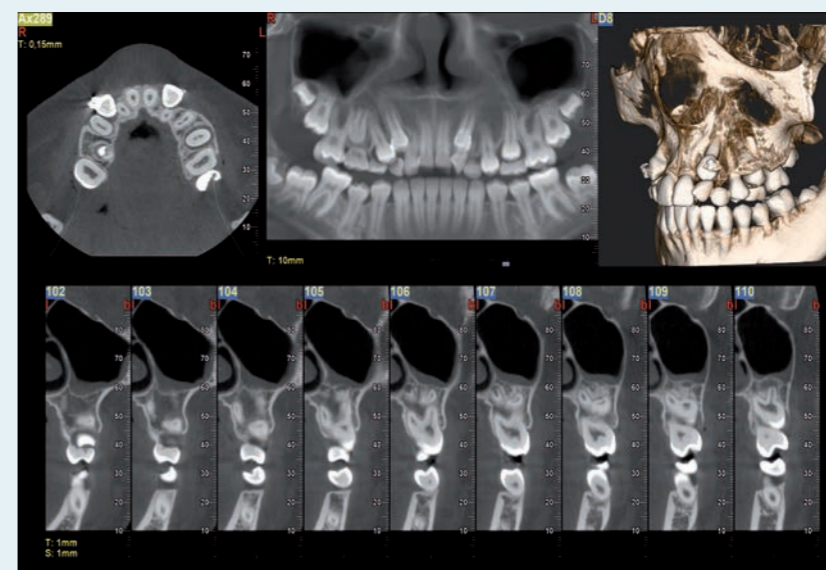
The FOV can be adapted to the patient to reduce exposure. The 8x7 cm FOV provides an overall view of the child's
dentition. This is highly useful for detailed planning of paediatric orthodontic treatment or the cure of more serious
pathologies; on the NewTom GO this feature is optimised by the reduced impact of artifacts. NewTom GO Cone Beam
X-ray Technology and dedicated NNT software provide a complete Dataset of images that can also be subsequently
modified to respond to needs on a case by case basis.

Complete child/adult upper arch


10x6

8x6
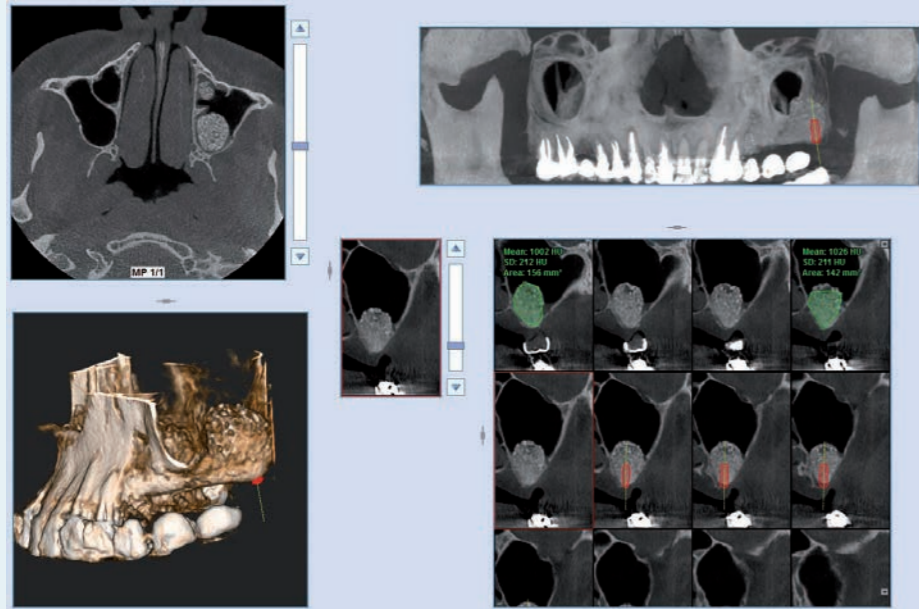
With 10X6 cm and 8x6 cm FOVs able to be used for analysis of an anatomical part (such as a maxillary sinus with lift suitable for implant insertion), NewTom GO meets the specialists' need to assess the implant site and its density.

.

Upper and lower local investigation


6x6

6x7
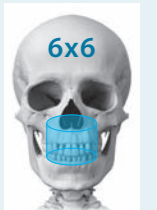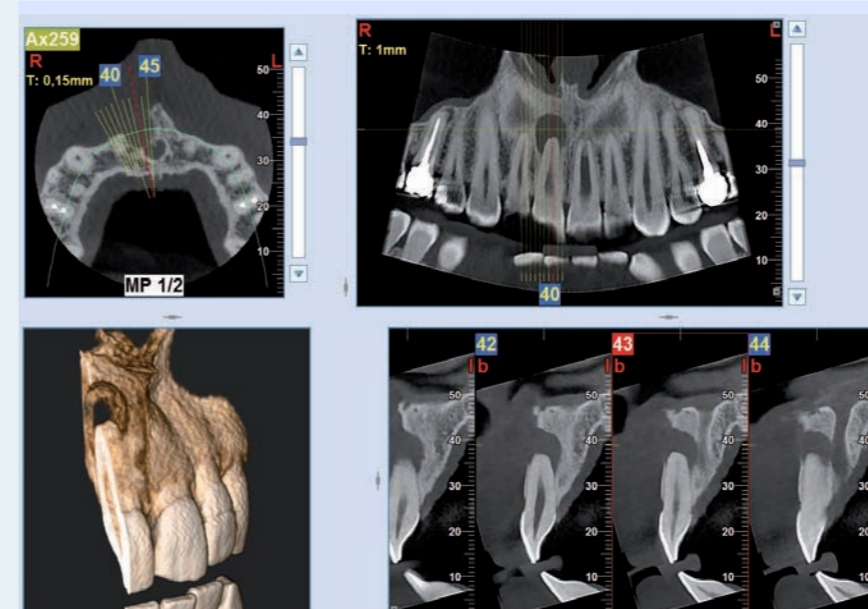
New Tom GO offers an effective response to the need for a highly detailed view of limited anatomical areas and helps deal with all endodontics and periodontics-related problems; the high resolution and collimation of small 6x7 cm and 6x6 cm FOVs make it a precision diagnostic tool.

Complete child/adult lower arch

10x7

8x7
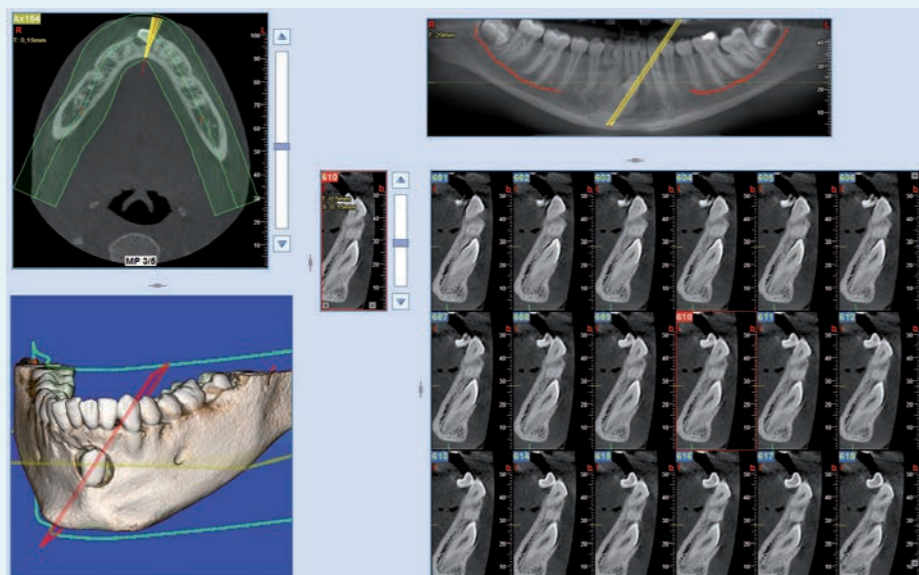
The 10x7 cm and 8x7 cm FOVs are designed for analysis of the mandibular region. In the case of unerupted canines, where it is necessary to assess their relationship with the mandibular canal and adjacent anatomical structures, NewTom GO allows attainment of complete images and their simple, fast processing to highlight points of interest.

Studying adult/child maxillary sinuses
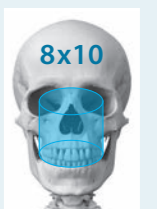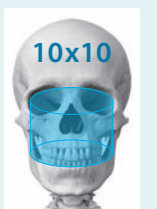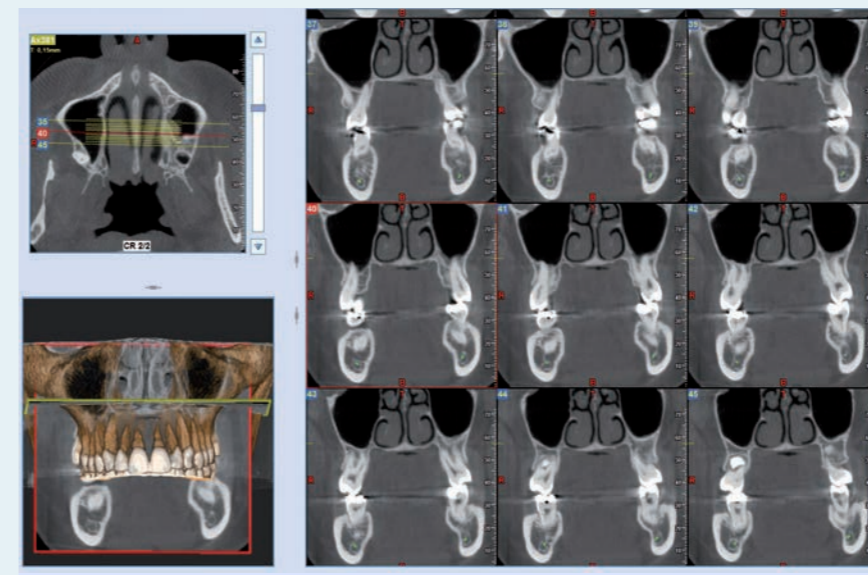
10x10

8x10

The 10x10 cm and 8x10 cm FOVs are perfect for providing a complete view of maxillary sinuses and relative airways, upper arch included. NewTom GO readily adapts to the user's needs through extremely simple examination execution and processing, with various viewing modes.

THE BEST OF 2D IMAGING
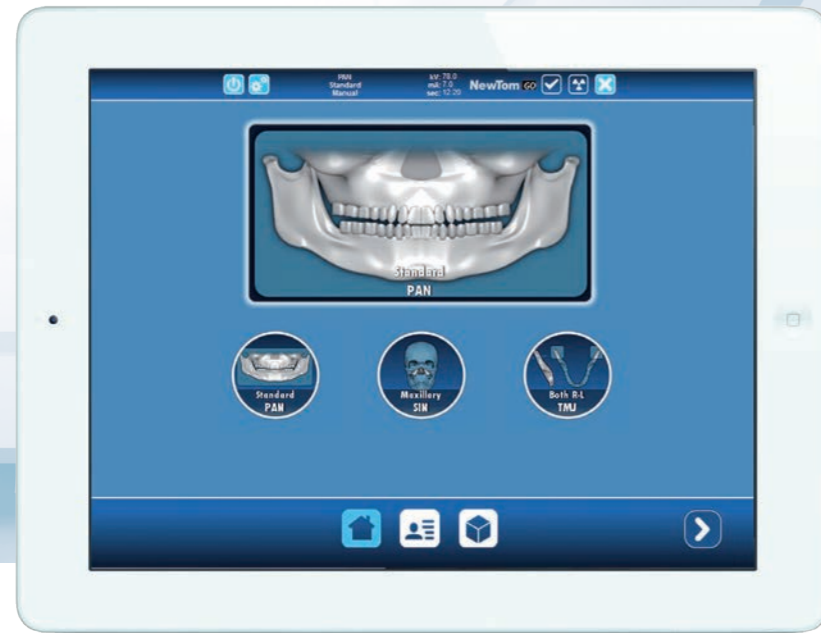
NewTom GO ensures fast, simple, compete 2D diagnostics. Up to 22 programmes allow the 2D examination to be set up according to the specific stage and requirements of treatment.
NNT software uses innovative autoadaptive panoramic imagery to provide a view that is always optimal and optimised. Moreover, the MultiPAN function allows selection of different focal planes, ensuring images are perfectly suited to diagnostic needs.
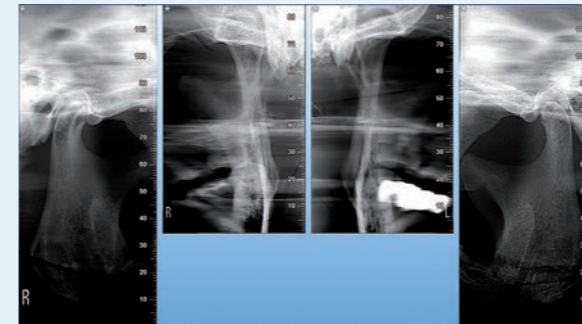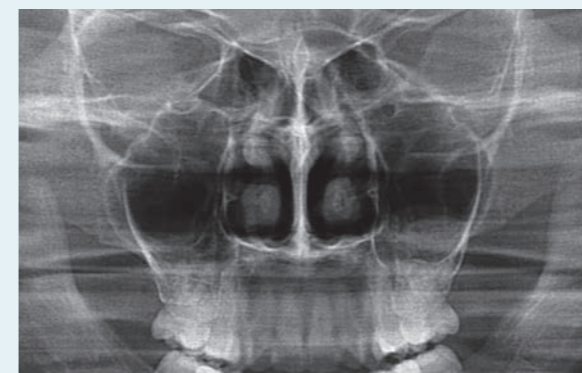
Adult panoramic

The standard panoramic programmes provide a complete, accurate view of the dental arches, maxillary sinuses and temporomandibular joints; they also allow restriction of the image to a specific anatomical zone.

Child panoramic

The specific child panoramic protocol with vertical collimation adapts field of view and exposure to patients of paediatric age, thus reducing X-ray dose.

Temporomandibular joint

The TMJ protocol, specifically intended for investigation of the temporomandibular joint, produces four projections with just one examination: two lateral and two postero-anterior, with mouth open or closed.

Maxillary sinuses

The SIN programme for the study of maxillary sinuses allows attainment of frontal and lateral views, optimised thanks to a specially designed focus layer.

Dentition

Programme for investigation limited to full or partial dentition, with orthogonal projection and increased signal-noise ratio for periodontal checks and highly detailed images.

Bitewing

Program for studying teeth crowns with optimised interproximal projection, collimated at low doses. Quality can be compared to that of an intraoral bitewing, but the examination is less intrusive and more comfortable.

SafeBeam™

NewTom-developed SafeBeam™ technology safeguards the health of patient and surgery personnel alike by minimising X-ray emissions. This exclusive system automatically adapts the dose to the patient's build. Thanks to SafeBeam™, NewTom GO constantly monitors X-ray power and quality during the acquisi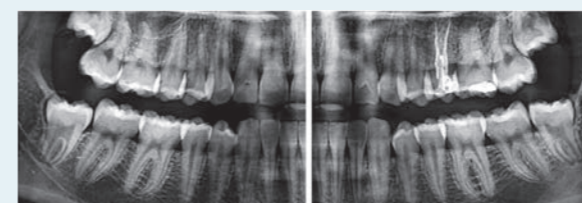tion of both 3D and 2D images. The outcome is sharp images with clear contrast, whatever the patient's build or bone density; exposure auto-adapts to the patient, thus safeguarding his/her health.

ECO SCAN and Adaptive FOV

Usually, the huge amount of data needed in 3D imaging means greater X-ray exposure. That's why NewTom applied - and was the first to do so - the pulsed-emission CBCT solution to dental imaging, which reduces X-ray doses significantly.

The 3D ECO SCAN protocol with ultra-fast scanning (6.4s), moreover, allows accurate investigation with minimal emission times (1.6s) and is especially useful for post-surgery check-ups or whenever dentists wish to reduce patient X-ray doses.

Lastly, the 3D Adaptive FOV lets the user choose between different collimations for adults and children, and for complete or partial analysis, to adapt the dimensions to the irradiated area.

ECOPan and variable collimation

NewTom GO offers versatile 2D diagnostics with low emissions that safeguard the patient without affecting image quality. Dentists can, in fact, use differentiated panoramic programmes with variable collimation for adults and children, complete or partial for dentition only or bitewing views. Variable collimation also permits investigation of the temporomandibular joint and maxillary sinuses, again with optimal emissions-image quality ratios.

NewTom GO also features the ECOPan scan protocol (6.6s) which lets users set an ultra-fast scan and further reduce X-ray exposure.

.

NewTom is always highly attentive to patient health and, thanks to unparalleled know-how, combines maximum quality with minimum X-ray doses.

NewTom GO ensures optimal adaptation of X-ray emissions according to diagnostic needs and selected protocols; additionally, automatic autoadaptive systems optimise patient exposure (and so reduce the risk of over-exposure).

AUTOADAPTIVE FOR CERTAIN RESULTS

NewTom GO autoadaptive settings ensure proper execution of the examination, maximising visual results with emissions that suit diagnostic requirements. Similarly, guided patient positioning and alignment ensure perfect focusing. Advanced functions also eliminate any need for repeat scans.

Virtual control panel

The acquisition process is simple and intuitive. The user receives step-by-step guidance via a virtual control panel (on PC or iPad), from the choice of examination to patient positioning and the start/execution of the scan itself.

Autoadaptive Panoramic Treatment

The innovative ApT function allows fully automatic acquisition of clear, homogeneous autoadaptive PAN images. Focusing, luminosity, contrast and filters, in fact, automatically adapt to the different anatomical areas and respective tissues, always ensuring nothing less than optimal imaging.

Alignment checks

Before starting a 3D scan it's possible (where desirable) to check for proper patient alignment via the PC; any corrections can be made thanks to the two scout images, one lateral-lateral and the other antero-posterior.

Guided alignment

Three laser guides allow precise patient alignment, also aided by a large frontal mirror that helps the operator settle the patient into the right posture.
The device can be moved easily via the on-machine keypad or the dedicated iPhone/Android app.

Perfect positioning

Patient stability is essential for sharp focusing and can, therefore, have a significant impact on image quality. That's why NewTom GO provides all the tools needed to ensure precise, stable, comfortable positioning.
Entry and view are also made easier by the angled position of the rotary arm.
The column. which features two-speed drive, adapts to patient height. Stability is guaranteed by 5 head support points: head support with 3 self-stabilising fins (two lateral and one frontal), bite and chin rest.
Moreover, two solid metal handles on the column provide further patient support, helping to maintain the right posture and so preserve stability at all times. The head support and bite block can be repositioned rightwards or leftwards to acquire off-centre 3D FOVs, again with maximum stability.

NewTom GO simplifies and optimises workflows thanks to an ergonomics that has been designed to ensure optimal patient positioning and stability, allowing in-machine adjustment with maximum comfort.
The structure - practical and well suited to everyday surgery usage - creates the conditions needed for certain results under all circumstances.

Easy access

NewTom GO ensures maximum ergonomic practicality at all times: extensive column excursion and immediate hindrance-free patient positioning also facilitate access for patients with motor difficulties, wheelchair users included.

NNT, ONE SOFTWARE FOR ALL YOUR NEEDS

NNT, the software fully developed by NewTom, includes all the applications needed to execute the exam, process 2D/3D images and share them.

A variety of work modes and functions respond to the specific needs of implantology, endodontics, periodontics, maxillofacial surgery and X-ray specialists, allowing treatment to be planned after full, accurate assessment of the case.

One software includes the full complement of 2D/3D imaging solutions, perfectly integrated into surgery workflows.
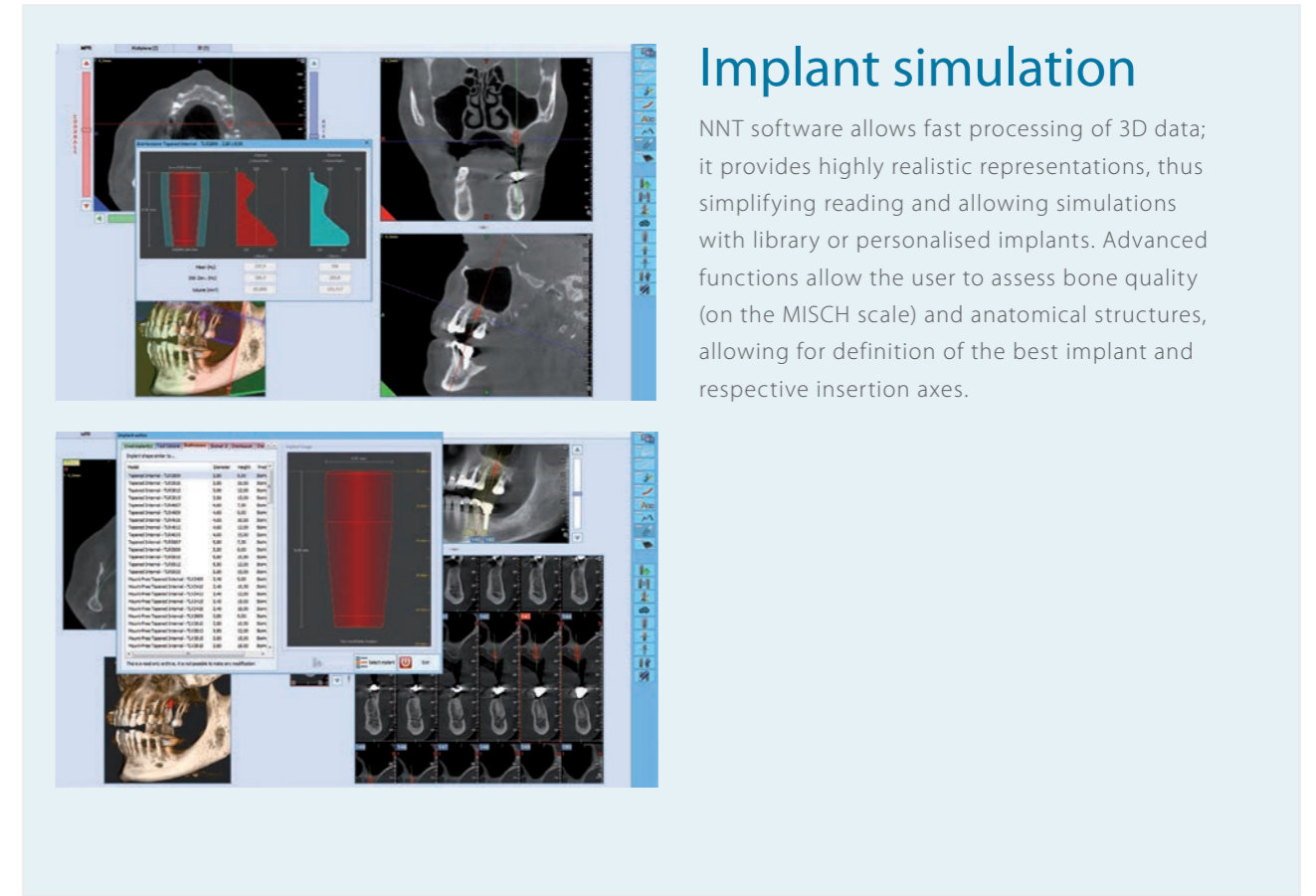
Implant simulation

NNT software allows fast processing of 3D data; it provides highly realistic representations, thus simplifying reading and allowing simulations with library or personalised implants. Advanced functions allow the user to assess bone quality (on the MISCH scale) and anatomical structures, allowing for definition of the best implant and respective insertion axes.
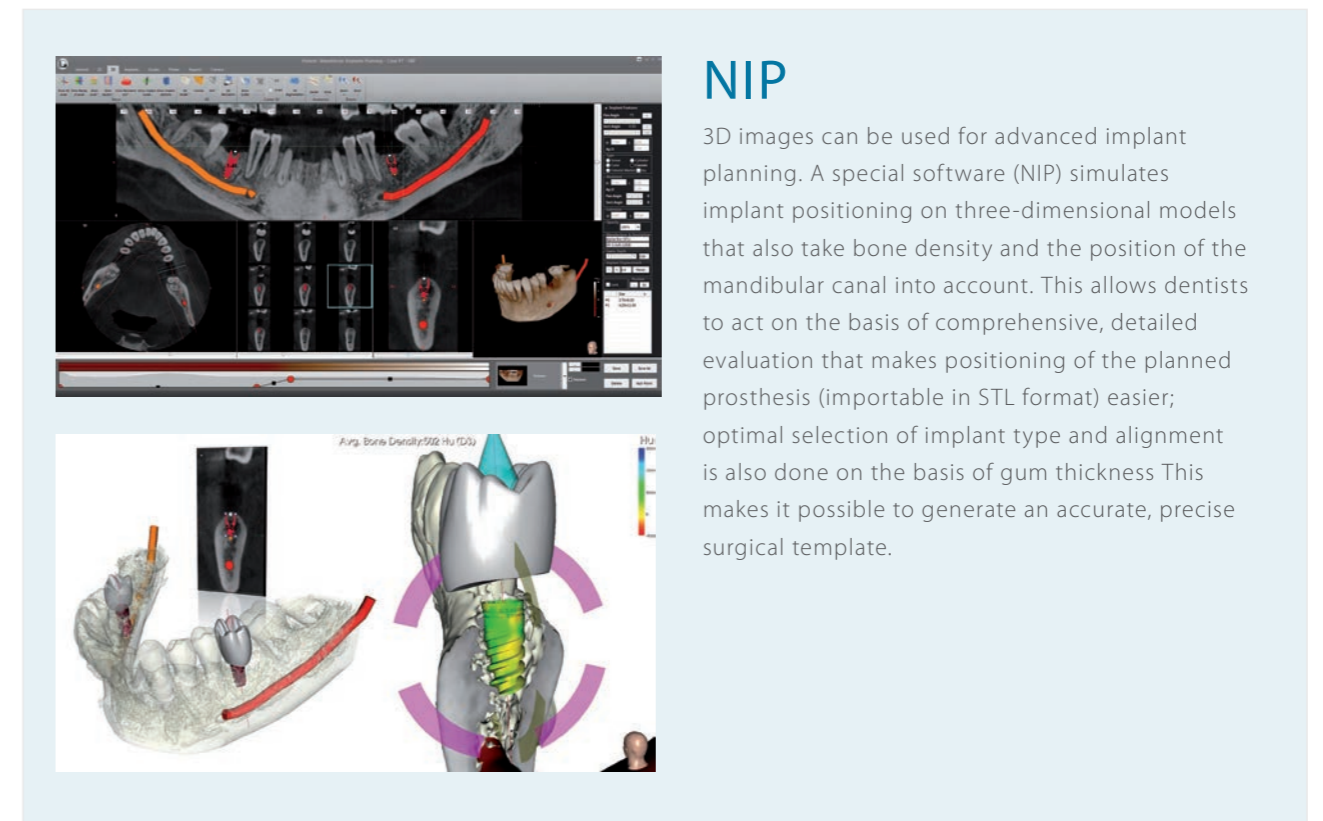
NIP

3D images can be used for advanced implant planning. A special software (NIP) simulates implant positioning on three-dimensional models that also take bone density and the position of the mandibular canal into account. This allows dentists to act on the basis of comprehensive, detailed evaluation that makes positioning of the planned prosthesis (importable in STL format) easier; optimal selection of implant type and alignment is also done on the basis of gum thickness This makes it possible to generate an accurate, precise surgical template.

COMPLETE CONNECTIVITY

GO
2D/3D

Acquisition can be controlled remotely thanks to a control panel available for PCs, laptops and Windows tablets, allowing examination settings to be made from any fixed or mobile workstation. Moreover, a convenient iPad app makes it possible to select the examination and set the protocol that best suits diagnostic requirements. Lastly, a SmartPhone app lets users adjust machine positioning and adapt it to the patient without necessarily having to use the on-machine keypad.
PC, Laptop, Tablet (WIN) - iPAD - iPhone, "Android" Phone

An IHE certified system that allows efficient communication with DICOM nodes, such as RIS/PASC systems and DICOM printers, via all the DICOM protocols (Worklist, Storage/Commitment, MPPS, Query/Retrieve, Print).
Dicom Worklist - Dicom Storage/Commitment
Dicom MPPS - Dicom Query/Retrieve - Dicom Print

Ethernet connectivity makes it possible to access the device at any time and carry out assistance directly on the machine, even remotely; this allows the user to monitor its status, identify any problems and upgrade firmware and/or software whenever necessary.

An open system that allows fast, efficient interfacing with the main dental surgery management software solutions via various standard VDDS, TWAIN and/or personalised modes.

Examination results can also be shared via CD/DVD, USB memory device or simply via a web folder using this complete, high performance viewer. This allows the case to be analysed using the full potential of NNT software.
CD/DVD - USB memory - Web folder

For dentists who need dedicated processing to obtain the specialist treatment protocols essential for prosthetic, implant, orthodontic orthognathic surgery and maxillofacial surgery purposes. Acquired data can be sent rapidly in standard DICOM 3.0 format.
Implant surgery project
Orthodontic treatment project
Maxillofacial surgery project
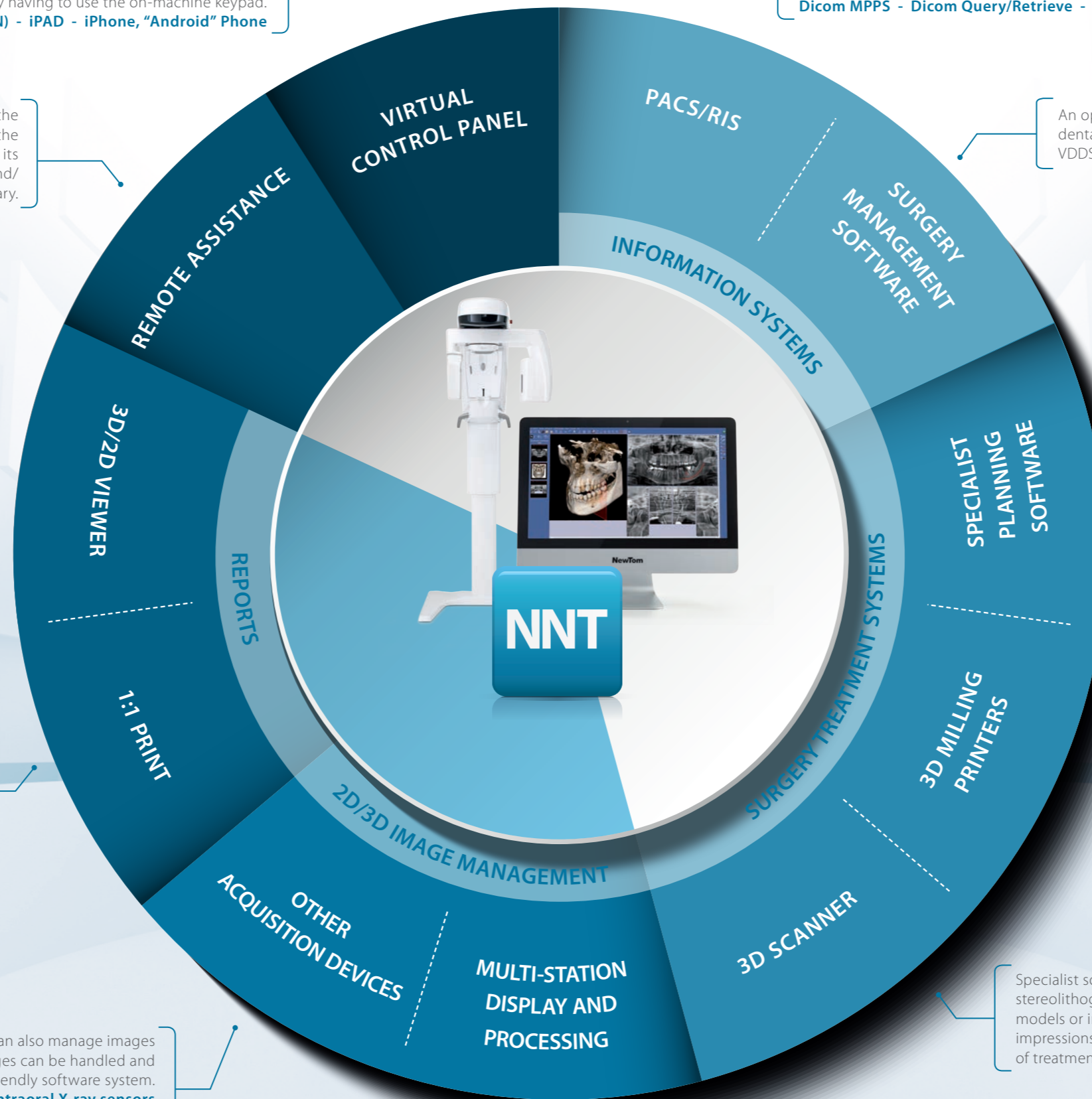**Aesthetic-functional project**

A comprehensive, flexible report tool that allows cases to be stored and shared with the patient rapidly, in colour on photographic paper or with grey levels on transparencies that can be viewed on devices such X-ray viewers.

Specialist software (such as NIP) makes it possible to segment the reconstructed volume and export surfaces that can be useful for planning, design and execution of, treatment in STL format: this allows production of 3D items such as models, templates or dentures.

With the TWAIN interface and DICOM 3.0 data import, NNT can also manage images from other 2D/3D acquisition devices, thus ensuring images can be handled and processed using just one powerful, user-friendly software system.
Intraoral cameras - Intraoral X-ray sensors
Phosphorus film readers
PAN/CEPH systems - 3D devices (CBCT and MSCT)

Specialist software (such as NIP) makes it possible to manage stereolithography data from extra-oral optical scanners (which digitalize models or impressions) and/or intra-oral scanners to obtain digital impressions that can be overlaid on volumetric data. This allows optimisation of treatment and interfacing with prosthetic planning CAD systems.

A database shared on the local network allows patient documents and images to be filed so they can be viewed or processed from any workstation. The allocation system allows storage in several folders and protection via user password, thus limiting access to the data available in specific files.
Multi-User Database - Multi-Station Data Display

Circular diagram labels

- VIRTUAL CONTROL PANEL
- PACS/RIS
- REMOTE ASSISTANCE
- SURGERY MANAGEMENT SOFTWARE
- INFORMATION SYSTEMS
- 3D/2D VIEWER
- SPECIALIST PLANNING SOFTWARE
- REPORTS
- SURGERY TREATMENT SYSTEMS
- 1:1 PRINT
- 3D MILLING PRINTERS
- OTHER ACQUISITION DEVICES
- 2D/3D IMAGE MANAGEMENT
- 3D SCANNER
- MULTI-STATION DISPLAY AND PROCESSING

NNT

NewTom

TECHNICAL SPECIFICATIONS

IMAGES	2D	3D
Type	Adult and child panoramic, ECOPAN, MultiPAN, Dentition, PA and LL (right and left) maxillary sinuses, Temporomandibular Joint (2 x LL +2 x PA) open and closed.	Complete examination of the 2 arches in a single scan for adults and children with reduced collimation. Studies of the maxillary region with maxillary sinuses. Studies localized to region of interest.
Child examination	Yes	Yes
Maximum resolution	from 5 to 7 lp/mm	Voxel 80 μm (minimum section thickness)
Maximum field of view (mm)	280 (length); 150 (height)	102 (diameter); 96 (height)
Reduced fields of view (cm)	6 x 12.5 (Child); 6 x 9 (Dentition bitewing)	10x10 - 10x7 - 10x6 - 8x10 - 8x7 - 8x6 - 6x7 - 6x6
Maximum image data dimensions	7.5 MB	720 MB
Magnification	PAN 1.2 - 1.3	1 to 1
Scan time	PAN 12s (STD.) – 6.6s (ECO)	HiRes 16.8s (Regular) - 9.6s (ECO) STD 11.2s (Regular) - 6.4s (ECO)
Minimum image display times	RealTime	15 s
Advanced filters	ApT (Autoadaptive Panoramic Treatment)	aMAR (Autoadaptive Metal Artifact Removal)

INSTALLATION

Minimum available work space requirement	872 mm (L) x 1101 mm (D)
Package dimensions (L)x(D)x(H) in mm	Box1 930x690x960 + Box2 1860x355x350
Weight	90 Kg (199lb)
Accessories	Free standing base

ERGONOMICS

Patient alignment	3 laser guides
Patient positioning	5 head support points
Adjustments	Keypad on machine and/or iPhone/Android Phone - 2-speed height adjustment drive
Examination selection	Virtual control panel on PC, Windows tablet and/or iPad
Notes	Easy access for patients in wheelchairs

CONNECTIVITY

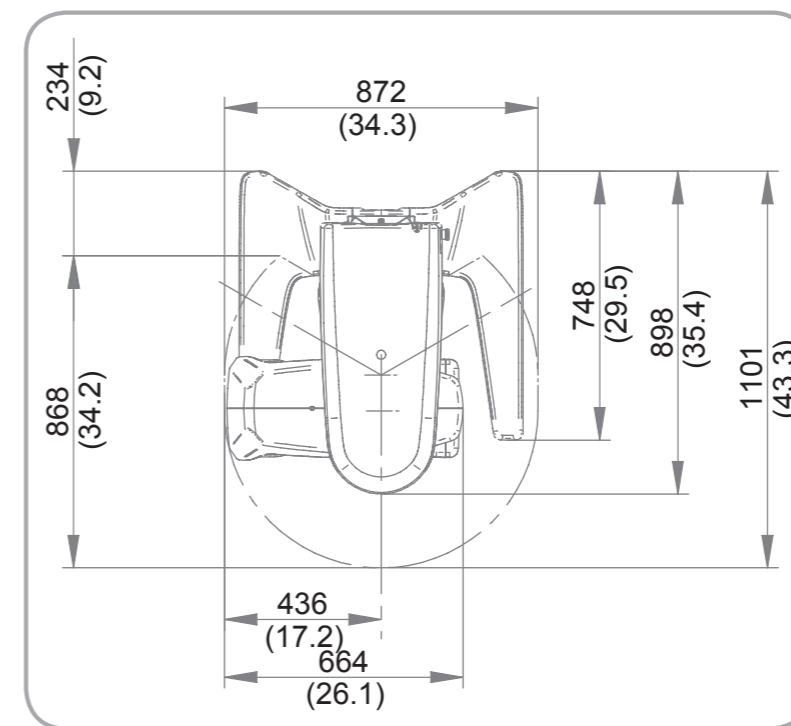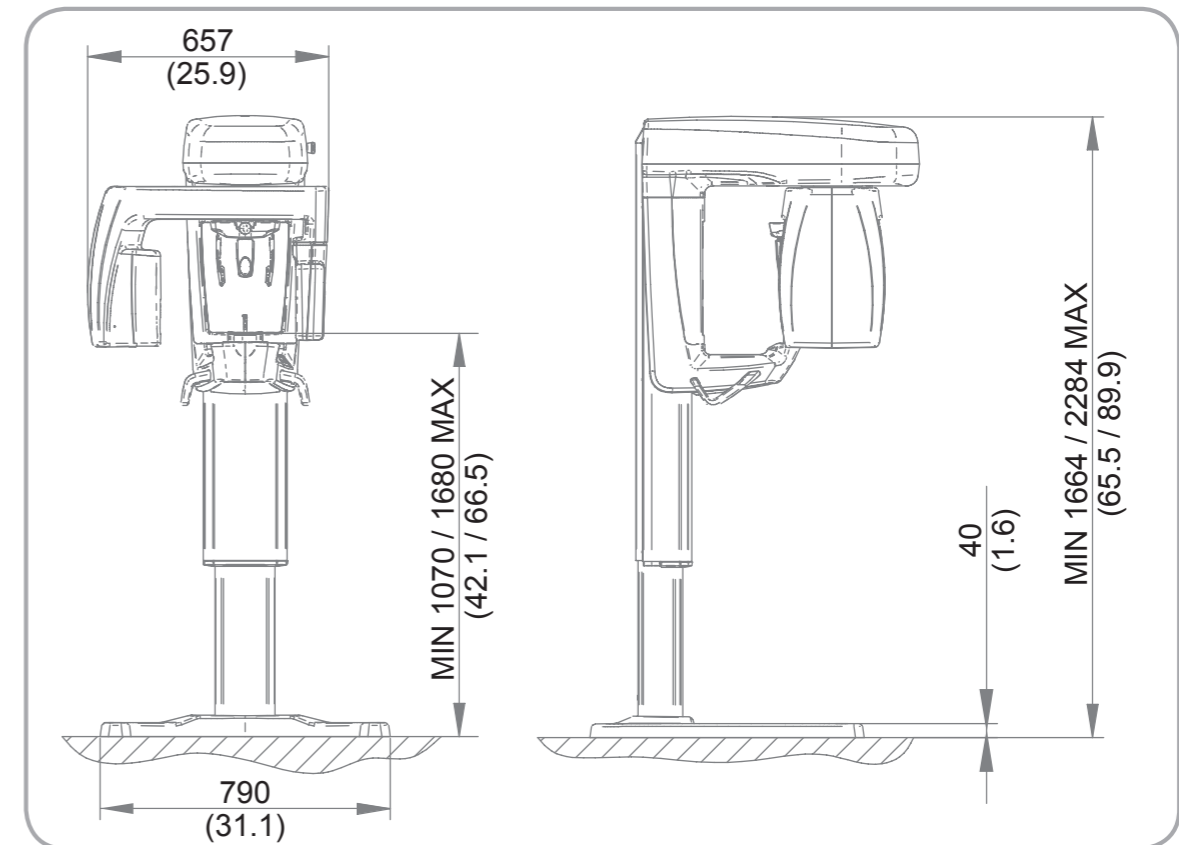|	
Connections	LAN / Ethernet
Software	NNT
Supported protocols	DICOM 3.0, TWAIN, VDDS
DICOM nodes	IHE certification (Print; Storage Commitment; WorkList; MPPS; Query Retrieve)
App	Compatibility with iPad and iPhone

X-RAY GENERATOR

Generator type	Constant potential (DC)
Anode voltage	2D mode: 60 kV – 85 kV (step 1KV); 3D mode: 90 kV (Pulsed mode)
Anode current	4 mA - 15mA
Focal spot	0,6 mm (IEC 60336)
Exposure Control	SafeBeam™
Maximum continuous anode input power	42W (1:20 at 85kV/10mA)
Inherent filtration	6 mm Al eq. (at 90 kV)

DETECTOR

Detector type	Amorphous Silicon (CSI)
Dynamic range	16 bit (65.536 grey levels)

POWER SUPPLY

Voltage | Frequency	115 - 240 Vac, +/- 10% | 50/60 Hz +/- 2 Hz
Maximum absorbed surge current	20A at 115V; 12A at 240V
Current absorption in standby mode	Maximum 0.5A (240V); 1A (115V)
Notes	Automatic adaptation for voltage and frequency

657 (25.9)

MIN 1070 / 1680 MAX (42.1 / 66.5)

790 (31.1)

MIN 1664 / 2284 MAX (65.5 / 89.9)

40 (1.6)

Dimensions in millimeter (dimensions in inches)

CE 0051

234 (9.2)

872 (34.3)

748 (29.5)

898 (35.4)

1101 (43.3)

868 (34.2)

436 (17.2)

664 (26.1)

Available on the App Store