

## Virtual Treatment Planning

OnyxCeph<sup>3TM</sup> is a Client-/Server Windows software with a powerful SQL database. OnyxCeph<sup>3TM</sup> is approved as a medical product for the processing of 2D and 3D data in dental facilities, first of all for purposes related to

- Archiving,
- Image Based Diagnostics,
- Treatment Planning and
- Patient Education

The software is available in program versions 2D Basic, 3D Basic, 2D Pro, 3D Pro and 3D Lab comprising different functional modules and optional components and therefore applicable for general and orthodontic practices, clinics, laboratories and dental schools/universities as well.

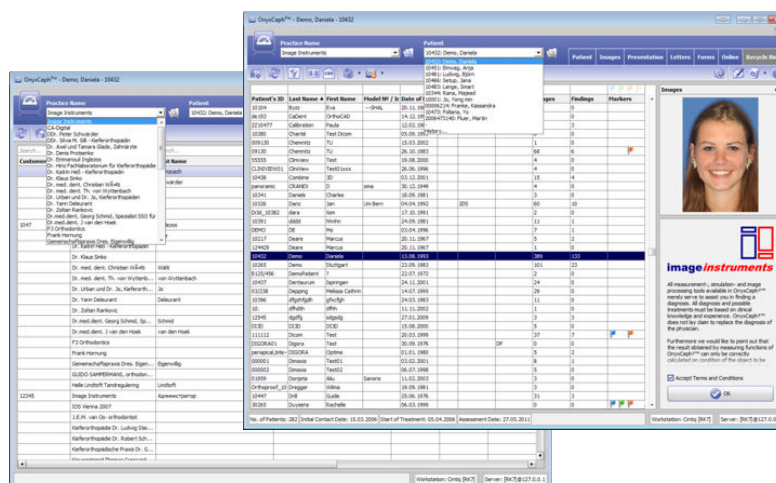
The OnyxCeph<sup>3TM</sup> unitary imaging concept allows to integrate a wide range of two or three dimensional image findings together with other case-relevant information in a substantial virtual planning of the orthodontic treatment process. A comprehensive and more or less complete group of internal planning tools is related to the use of virtual dental models which can be imported from desktop or intraoral scanners.

## Practice and Patient Management

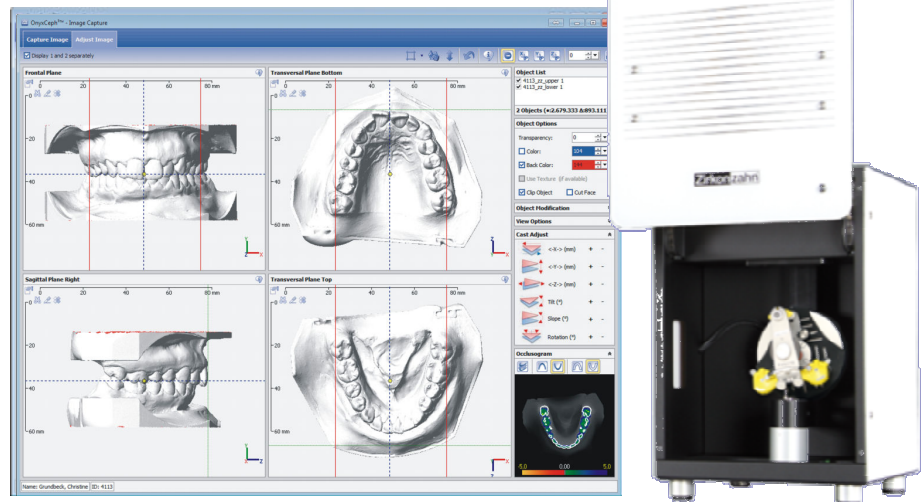
### • Data Acquisition | Scanning

OnyxCeph<sup>3TM</sup> supports the automatic assignment of image data and other case information to the correct practice and patient records in several ways.

Patient records can be created and synchronized manually but also via standard interfaces for 3rd party applications (e.g. patient management systems).



If users exchange 2D/3D image data, presentations, forms etc. online or offline by the container exchange function, for each communication partner a separate practice client is created and used. Filter and search capabilities help to find the needed information handy and fast.



- **Scan Data Import**

The import of scanned data is organized identically to the import workflow for any other two or three dimensional image file.

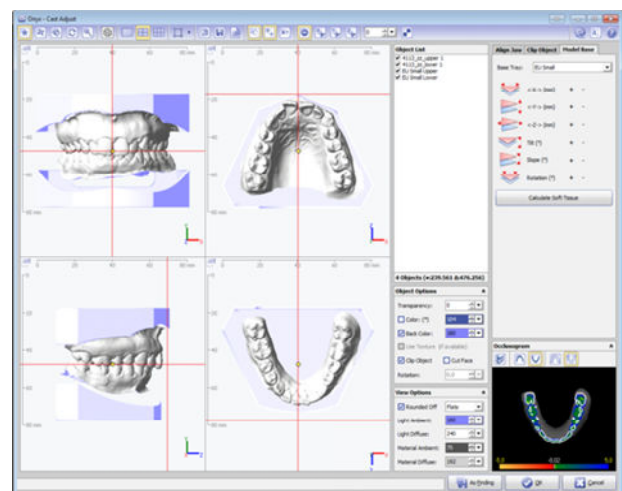
Beside the assignment of image data type, classification, comments, and other case-related information the 3D objects can be clipped, improved, completed, aligned in relation to occlusion and jaw axis and controlled by individual 3D viewing parameters before saved to the OnyxCeph<sup>3</sup>™ database.

- **Virtual Model Creation**

In module Model Adjust, after correctly aligned related to jaw axis and mid occlusion the virtual model upper and lower scan can be clipped, trimmed and finally completed by a base tray acc. to different standards selectable from a pull down list.

Alternatively, or additionally a clip plane can be applied to minimize the data volume to what is needed for planning purposes.

There is also a labeling (emboss) option for later model identification when printed.

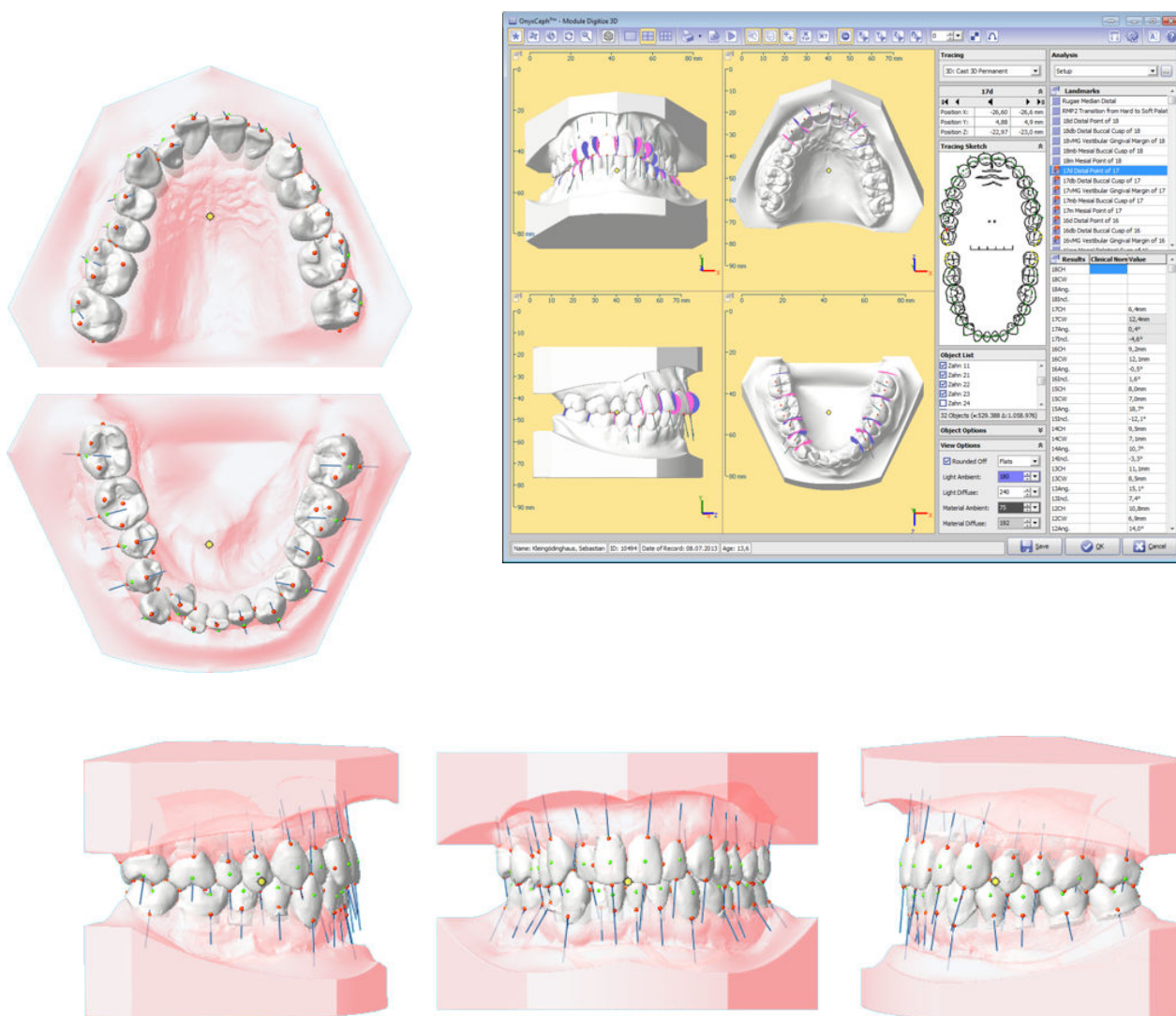


## Measurement, Analysis, Review

- **Model Analysis**

Like all other two and three dimensional image data in module Digitize virtual models can be evaluated and analyzed from a diagnostic and/or treatment planning point of view.

For this purpose, a list of more than 50 different methods classified acc. to dentition type primary, mixed, and permanent is provided. This list can be completed on request any time by adding new measurements for distances, angles, areas, volumes and other results calculated basing on such variables.



- **Tooth Coordinates**

Also in module Digitize, crown (FACC) and tooth (apex) axes and specific crown and jaw landmarks auto-assigned in module Segmentation and required for the following steps of the virtual planning process need to be corrected and confirmed.

## Tooth Segmentation

### I. Segmentation

OnyxCeph<sup>3™</sup> supports an automatic single tooth segmentation process. Starting from an initial crown landmark all 3D surface regions belonging to this crown are recognized and marked at run time. If needed, the result can be manually adjusted or the search algorithm can be repeated using a slightly modified initiation.

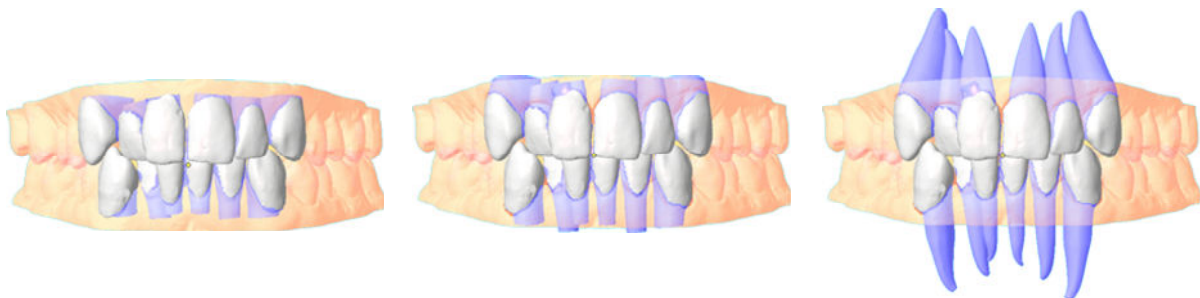
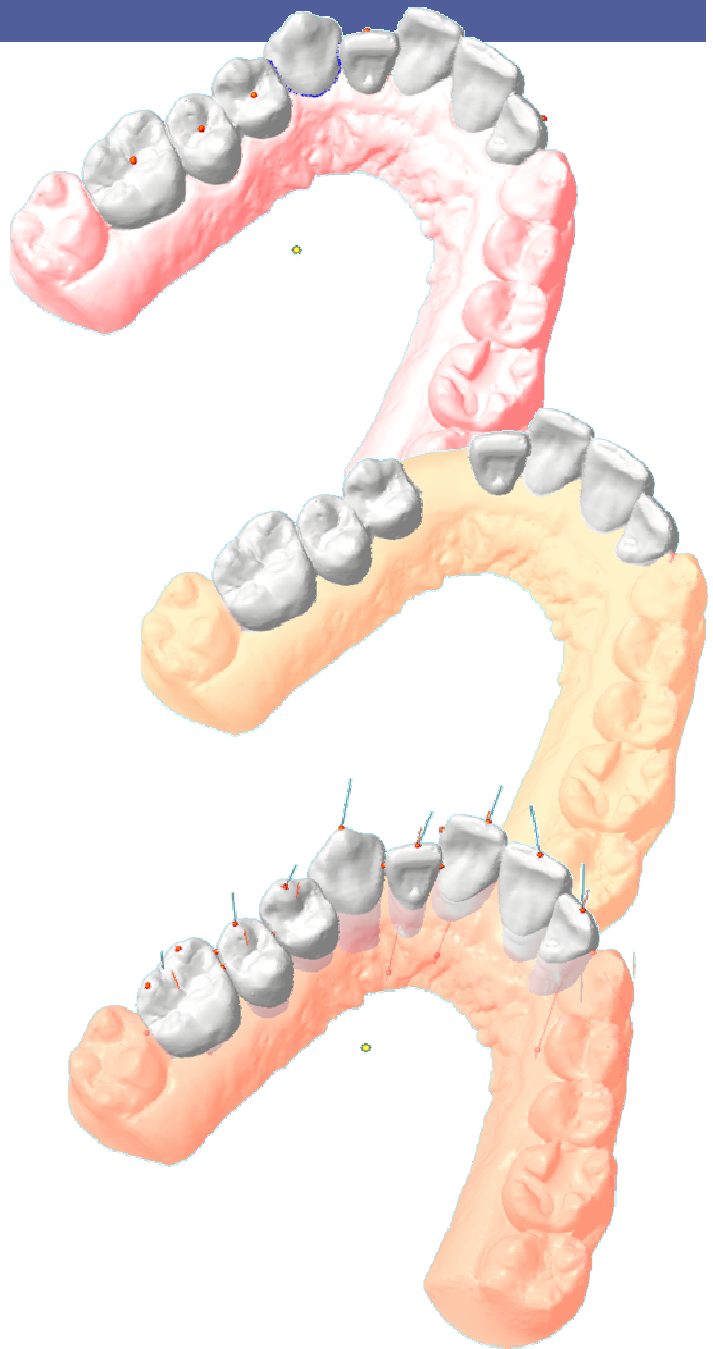
### II. Separation

In step II Separation, all recognized surface regions are converted into separate 3D objects while the remaining (toothless) jaw will be closed at the gingiva border by evaluation of the surrounding 3D gingiva curvature.

### III. Completion

In step III Completion, different options are available to complete the separated crown surface regions to entire 3D tooth objects and also to calculate crown landmarks required for the individual tooth axes assignment.

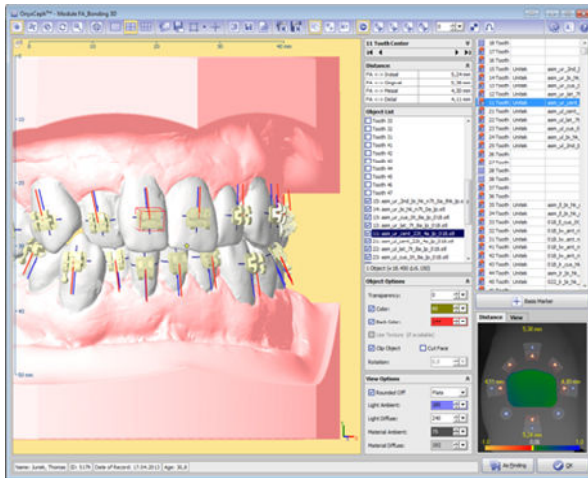
For example, the length of the synthetic or real root and the reference for the calculation of the mesial and distal crown landmark position can be varied.





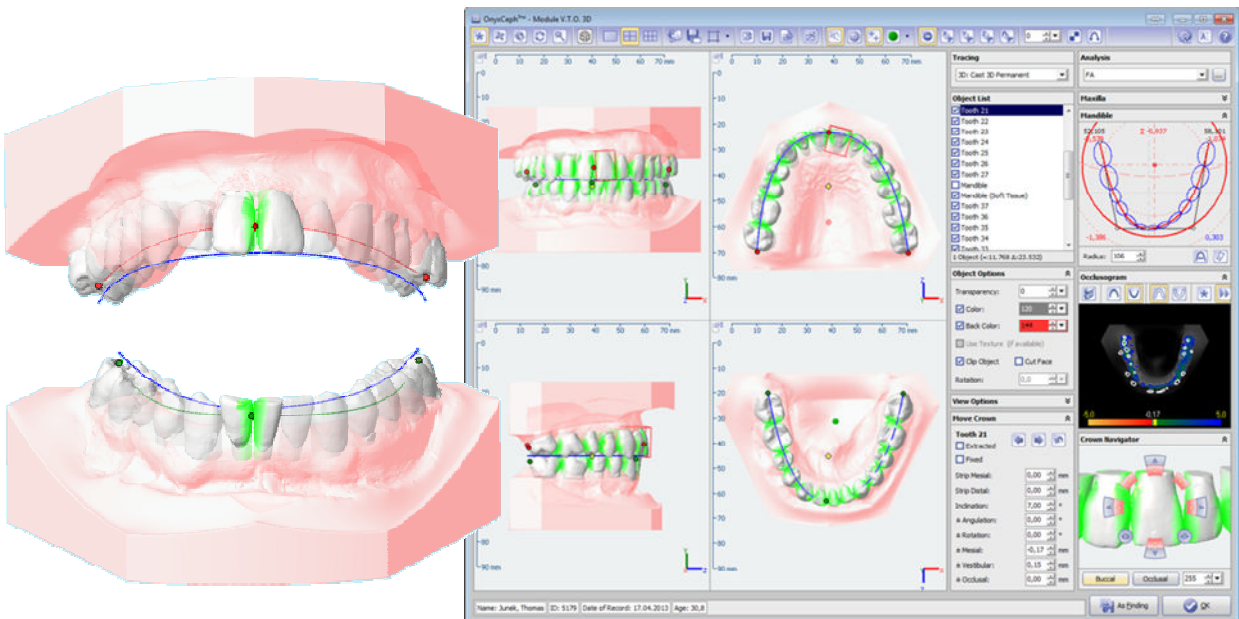
## Direct + Indirect Transfer Trays | Bite Splints

### FA\_Bonding



In Module FA\_Bonding, virtual brackets intended for the treatment can be selected and assigned crown-individually or in pre-defined bracket groups (sets) and placed/aligned automatically at the crown position calculated according to empirical rules. Position, angulation, and crown-base-distance for each bracket are automatically fit to the facial anterior bonding point (FA point), the crown axis (FACC) and also the crown surface of the corresponding tooth but can be individualized if needed using a graphical bracket navigator.

### V.T.O.3D - Virtual Setup



For planning workflows requiring a goal setup, module V.T.O.3D provides several useful options for automatic and/or interactive tooth displacement corrections applicable to the virtually segmented malocclusion and representing the real therapeutic measures available for orthodontic treatment. Basing on accepted prosthetics and orthodontics goal criteria for occlusion and mandibular joint, hierarchically structured virtual planning steps according to a proposed workflow sequence can be selected and applied.

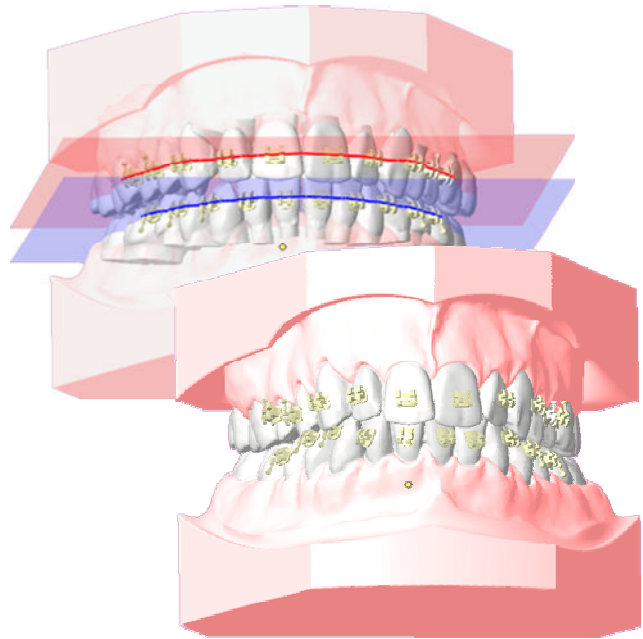
## Wire\_Bonding

Module Wire\_Bonding supports bracket positioning on the virtual setup model.

In compliance with the Andrews Straight-Wire-treatment philosophy, virtual wires are selected from an extendable library to be lingually or buccally adjusted (virtually bent) in relation to the goal arch in an upper and lower wire plane - correctly positioned by the user.

Then, crown-individually or in groups (sets) virtual brackets are put with their slot on the wire in a mid-crown position automatically.

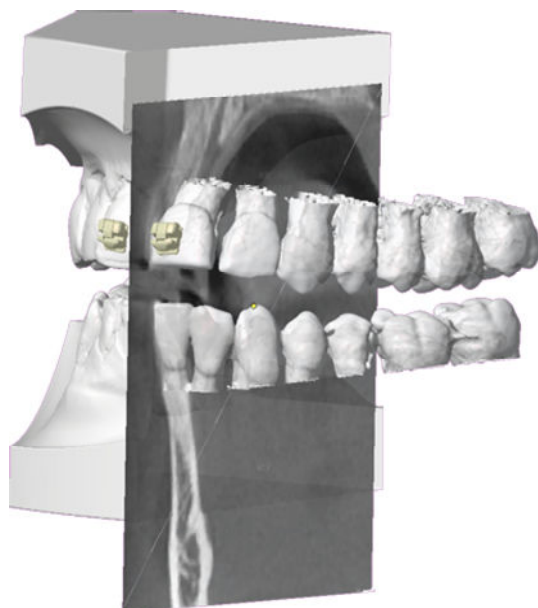
Alternatively, the virtual wire can be completely individualized by approaching the bracket base as close as possible but still slot-parallel to the corresponding crown surface.



After final wires and final bracket positions are calculated and confirmed on the V.T.O.3D model, tooth and bracket objects are re-transformed and saved in malocclusion relation to be used by direct and indirect bonding techniques supported by OnyxCeph<sup>3™</sup>. However, in addition to straight wires, also 3D wires are supported.

## Direct and Indirect Bonding - Trays, Waefers, Retainers

Basing on the unitary OnyxCeph<sup>3™</sup> evaluation concept all additional findings information 2D or 3D (e.g. cephalometric analyses, volume scans) can be easily integrated and used for the virtual planning process to achieve optimal treatment results.



To finally transfer the virtually planned bracket positions and alignments to the real patient a bunch of different direct and indirect bonding methods (e.g. by means of robots or rapid prototyping techniques) is supported.

Such methods offered as services or even as franchising concepts by several partners (dental service suppliers, laboratories, manufacturers) are rounding out the complete concept of computer aided orthodontic and OMS treatment planning covered by the OnyxCeph<sup>3™</sup> software application in striving to provide useful tools to optimize practice-internal workflow and to achieve reproducible good treatment results as well.

## Communication Practice - Dental Lab

In case the virtual planning workflow is shared between practice/clinic on the one hand and dental lab on the other, all data exchange including order forms, data synchronization, approval and data archiving can be done online using OnyxCeph<sup>3™</sup>.



## Prices

### Licenses

OnyxCeph<sup>3™</sup> can be ordered and activated according to different program versions and license types. Supported program versions are 2D Basic, 3D Basic, 2D Pro, 3D Pro and 3D Lab. Statistics, administration and planning modules (V.T.O.3D, Waefer u.a.) are optionally available.

For basic support (updates, hotline) for all program versions EUR 99 plus VAT (if applicable) is charged. Extended support options are also available.

Price EUR	2D Basic	3D Basic	2D Pro	3D Pro	3D Lab
RL+	900	1.800	2.700	3.600	4.800
OSL	100 p.a.	200 p.a.	300 p.a.	400 p.a.	n/a

*\* plus VAT, if applicable*

Price EUR *	2D Basic	3D Basic	2D Pro	3D Pro	3D Lab
Basic	99 p.a.	99 p.a.	99 p.a.	99 p.a.	99 p.a.
Extended	n/a	n/a	199 p.a.	199 p.a.	199 p.a.

*\* plus VAT, if applicable*

## Overview Program Versions 3D + Optional Components

In the table below, the configuration list for all available program versions OnyxCeph<sup>3™</sup> is compared and the prices for **optional components** are listed.

Program Version	2D Basic	2D Pro	3D Basic	3D Pro	3D Lab
<b>SQL Data Base</b>					
Network License (X 1 on request)	5/1	5/1	5/1	5/1	20/1
Stand Alone License (1 1)	•	•	•	•	•
<b>Imaging 2D Modules</b>					
Image Import (incl. Digital Xray Interfaces)	•	•	•	•	•
Image Adjust (Classify, Crop)	•	•	•	•	•
Clone Finding	•	•	•	•	•
Image Edit (Modifications on Image Copy)		•		•	•
Image Digitize (Cephalometric Tracing)		•		•	•
Image Combine	•	•	•	•	•
Mirror Image		•		•	•
CO CR Correction		•		•	•
Ricketts V.T.O.		•		•	•
Visual Treatment Simulation (Ortho/OMS)		•		•	•
Superimposition (Björk)		•		•	•
Copy Save as Send to Show Print	•	•	•	•	•
<b>Imaging 3D Modules</b>					
Image Import (incl. DICOM Rendering)			•	•	•
Image Adjust (Classify, Crop)			•	•	•
Clone Finding			•	•	•
Digitize Image (Cephalometric Tracing)				•	•
Image Combine			•	•	•
Mirror Image				•	•
Waefer Creation				1.200	1.200
Model Adjust/Attach Base Tray			•	•	•
Segmentation Separation Completion				•	•
FA_Bonding				•	•
V.T.O.3D (virtual Set-Up)				1.200	•
Wire_Bonding				600	600
Kylix.3D (indirect Bonding)				•	•
Splint.3D (direct Bonding)				•	•
Retainer.3D				600	600
Aligner.3D				600	600
3D Export (STL, OBJ, ZPR a.o.)					•
<b>Presentation</b> (Slide Show, Media)	•	•	•	•	•
<b>Letter Writing</b>	•	•	•	•	•
<b>Online Forms (DHTML)</b>	•	•	•	•	•
<b>Internet Browser</b>	•	•	•	•	•
<b>Recycle Bin (Lost&amp;Found)</b>	•	•	•	•	•
<b>Web Reports</b>	•	•	•	•	•
<b>Container Exchange</b>	•	•	•	•	•
<b>Image-/ Result Export</b>	•	•	•	•	•
<b>Findings Lexikon</b>		•		•	•



## Optional Components

<b>Additional Server License</b> 2nd Network License (LAN 5   1) / same practice name.	50% costs of the 1st network license
<b>Additional Standalone License</b> 2nd Notebook License (1   1) / same practice name.	25% costs of the 1st network license
<b>Additional Site License</b> Additional Congruent Network Client.	€ 90 (RL+) -or- € 10 p.a. (OSL)
<b>User Administration Program OnyxAdmin</b> Administration of permissions depending on user login.	€ 400,00
<b>Statistics Program OnyxStat</b> Search and statistics over findings results.	€ 800,00
<b>Modul Wafer Creation 3D</b> Creation of Surgical Wafers <i>Intermediate/Final</i> .	€ 1.200,00
<b>Modul V.T.O.3D (Virtual Set up)</b> Creation of virtual set ups.	€ 1.200,00
<b>Modul Wire_Bonding</b> Virtual Straight Wire Planning.	€ 600,00
<b>Modul Retainer 3D</b> Virtual Retainer Planning.	€ 600,00
<b>Modul Aligner 3D</b> Virtual Aligner Planning.	€ 600,00

### Compatible Accessories

#### Full Arch Scanner 3D

request quote

3D intraoral and model scanner

*Due to the diversity and frequent update of hardware which can be used together with OnyxCeph<sup>3™</sup>, a complete listing is impossible. For questions, please contact Image Instruments directly by phone or email.*

### Facilities, Service, Training

#### Installation Flat Rate

€ 110,00

Each 60 min. Calculation basing on agreement/effort.

#### Instruction Flat Rate

€ 110,00

Each 60 min. Calculation basing on agreement/effort.

#### Journey (Distance Flat Rate)

€ 64,00

Each 100km by car from/to Chemnitz.

#### Night Stop Flat Rate

€ 100,00

Per instructor and night, basing on agreement.

#### Service Package D250

€ 460,00

For users within a distance of 250 km by car:

Up to 3 hours installation|software setup plus basic instructions \*

Journey included.

#### Service Package D500

€ 690,00

For users within a distance of 500 km by car:

Up to 3 hours installation|software setup plus basic instructions \*

Journey + One Night Stop included.

#### Service Package D750

€ 820,00

For users within a distance of 750 km by car:

Up to 3 hours installation|software setup plus basic instructions \*

Journey + One Night Stop included.

#### Service Package D1000

€ 960,00

For users within a distance of 1000 km by car:

Up to 3 hours installation|software setup plus basic instructions \*

Journey + One Night Stop included.

*\* For each additional hour € 110 will be charged.*

## Customization by Arrangements

<b>Technical and Administrative Services</b>	€ 30,00
Each 30 min. Calculation basing on agreement/effort.	
<b>Forms Creation</b>	€ 30,00
Strike price for the customization of print form, gallery and presentation layouts Calculation basing on agreement/effort.	
<b>Individual Analysis 2D 3D</b>	€ 290,00
Customized analysis – subject to price-fixing agreement.	

## Annual Fees for Support and Maintenance

<b>Software Support Basic</b>	€ 99,00
Free-of-charge technical support, free-of-charge updates and upgrades. Annual fee.	
<b>Software Support Extended</b>	€ 199,00
Basic support plus online application support. Annual fee. *	

*\* specific hardware and software requirements need to be fulfilled. For questions, please contact Image Instruments directly by phone or email.*

## Switching License Type

In case of switching license type from Subscription (OSL) to perpetual license (RL+) purchase price will be reduced by 50% of all already paid OSL fees.

## Note

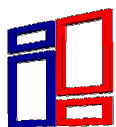
Prices do not include VAT or shipping. By releasing this price list, all previous price lists expire. Workability of OnyxCeph<sup>3™</sup> on computers which do not comply with the system requirements designated by Image Instruments will not be guaranteed.

Image Instruments reserves the right to modify OnyxCeph<sup>3™</sup> as a result of technological progress or to adapt new Windows<sup>™</sup> operating system features or requirements.

Within the territory of the European Union, each user of the software is responsible for complying with the regulations of the medical device directive.

The CE label for OnyxCeph<sup>3™</sup> as a medical software product is effective only for the latest available release.

*For all questions about OnyxCeph<sup>3™</sup> you could not find an answer within this summary, please contact Image Instruments directly by phone or email.*



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