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## 1. Dear Customer

byzz nxt offers you the following functions:

- Capturing, administering, and archiving of digital images from a range of different sources such as x-ray sensors, OPGs, DVTs, intraoral and extraoral video cameras, scanners, and digital cameras.
- A range of filter functions for image processing including sending by email.
- X-ray control book.
- Unlimited network ability.
- Radiography and video status.
- Delivering of images to Microsoft Word.
- Advisory assistance with an image catalog.
- Data transfer to a smartphone or tablet application.
- Data transfer to DICOM printers.
- Import and export of images in DICOM format, with patient data and image parameters.
- PACS connection (optional).

### 1.1. Important user information

If the software is used in a patient environment, the computer system deployed must comply with either the IEC 60950 or IEC 60601-1 standards.

Please always ensure that your equipment, connections, and cables are in faultless condition. Never use components that are visibly damaged or that have been exposed to exceptional stresses.

Carry out a daily data backup. Always back your data up before installing new software or updating existing software. Your specialist wholesaler or computer retailer will be able to advise you regarding these procedures.

All image enhancement and measurement tools from byzz nxt are intended solely to support your diagnosis. All diagnoses and possible treatments must be based on your clinical knowledge and experience.

No claim is made that the byzz nxt image processing tools can replace a diagnostic assessment by a dentist.

Please follow the relevant manufacturer's information and instructions for use when using other devices.

Electromagnetic disturbance (e.g., radio telephones) can lead to image losses when taking x-ray images. For this reason, only devices with CE marking should be used in your x-ray workplace.

This software should only be used by trained dental personnel because unintended program termination can lead to image losses.

The operator of the x-ray equipment is responsible for complying with the legal requirements for x-ray imaging.

At this point we would like to point out the obligation for regular constancy testing of the sensors used.

The calibration values for certain small x-ray sensors may only be entered by trained service personnel. Changes to these values can lead to incorrect measurements.

When correctly calibrated, the accuracy of the length measurement is 0.02 mm or 1% for gray-scale measurements. Please check the correct settings for the absolute image size before length measurements.

byzz nxt is not intended for use in combination with software for controlling or monitoring critical functions (e.g., for monitoring patient vital signs). We therefore request that you refrain from using byzz nxt with such software.

To ensure that your data are secure and the privacy of your patients is protected, we request that you comply with the instructions in the "Guidelines for IT Security" published by the German Federal Office for Information Security. The guideline can be found at:

### 1.1.1. Special notes for updates

#### From 10.2.89 or older

Please note that maintenance tasks of byzz Maintenance no longer work after an update! Therefore you have to create them again via byzz Maintenance.

### 1.1.2. Copyrights and Trademarks

Microsoft<sup>®</sup>, Windows<sup>®</sup>, Windows Server<sup>®</sup>, Outlook<sup>®</sup>, PowerPoint<sup>®</sup>, and Excel<sup>®</sup> are registered trademarks of the Microsoft Corporation in the United States and other countries.

Firefox and Thunderbird are registered trademarks of the Mozilla Foundation.

TeamViewer is a registered trademark of TeamViewer GmbH.

### 1.1.3. Responsibility of the manufacturer

The byzz nxt program is state of the art and has been manufactured in accordance with approved safety regulations.

orangedental GmbH & Co. KG [subsequently referred to as orangedental] only considers itself responsible for any effects on safety, reliability, and performance of the software if:

- Installation, extensions, re-setting, changes, or repairs are carried out exclusively by persons authorized by orangedental GmbH.
- The software is used in accordance with the instructions for use.

### 1.1.4. Responsibility of the operator

The operator is responsible for, but not limited to:

- Compliance with accident prevention requirements as well as ordinances related to setting up, operating, and using medical devices (Medical Device Operator Ordinance, MPBetreibV in Germany).
- Operation.
- Maintenance.
- Proper and safe condition of the product and the availability of this manual on site.
- Adherence to the safety instructions given in this manual.
- Compliance with the relevant data privacy provisions.

## 1.2. Permitted accessories for byzz nxt

There is the option of expanding the maximum number of users by means of licensing. By entering into a software maintenance contract, there is also the option of obtaining free updates.

If you are interested in this offer, please contact the central office in Biberach using the following contact information:

orangedental GmbH & Co. KG  
Aspachstraße 11  
D – 88400 Biberach, Germany

Phone: +49 (7351) 4 74 99 – 0  
Fax: +49 (7351) 4 74 99 – 44

Email: [info@orangedental.de](mailto:info@orangedental.de)  
Website: [www.orangedental.de](http://www.orangedental.de)



### 1.3. Medical intended usage

byzz nxt is used for acquisition, display, archiving and documentation of (i) image data, (ii) dental x-ray images and (iii) the periodontal status.

byzz nxt allows to optimize the diagnostic accuracy of image data, while maintaining the original data, by digital image processing (filtering, zooming, measuring length in the detector plane, brightness and contrast adjustment).

byzz nxt is designed to be operated by professional dental users (dentists, dental assistants).

### 1.4. Additional information

The user of byzz nxt must be familiar with the use of the operating system and be able to read the supplied operating instructions.

Assessing dental images requires that the viewing conditions are taken into account. For dental x-rays the provisions and standards that apply at the site of installation (e.g., the Germany Quality Assurance Guideline) must be complied with.

The computer on which byzz nxt is used must be located outside the patient surroundings, that is, the area the patient can touch during the treatment, or the computer must satisfy the additional safety requirements that apply for this area.

#### Imaging procedures

byzz nxt is a software product that is intended for displaying and archiving image data from different sources and provides various functions for image processing, including measurement functions. All measurements of 2D objects require that the image display is first calibrated to its true dimensions.

In general, byzz nxt software receives image data from device interfaces of the imaging hardware. For 3D datasets, byzz nxt can save the image data originating from a third software program in its database and then subsequently return the data to the third software program.

The application of any imaging procedure to patient groups, body parts / diagnostic issues is exclusively the purpose of the imaging hardware and is not the purpose of the byzz nxt software. As a result, the user of byzz nxt must comply with the information and warnings that are included in the operating instructions for these devices.

#### Data integrity

Any imaging procedure that is connected to the byzz nxt software must be tested after installation and before the first use on a patient.

The person responsible for operating the byzz nxt software must be familiar with local regulations pertaining to the processing of patient data, data security, and archiving using backup systems.

### 1.5. Definition of terms

#### Title bar:

Displays the practice name, the user who is logged in and his or her user group allocation, the patient's name, and the patient number. The practice name and the data and group allocation for the user who is logged in can be changed in Practice Management under Settings.

#### Menu:

The options in the menu are File, Edit, View, Extras, and Help

#### Symbol bar:

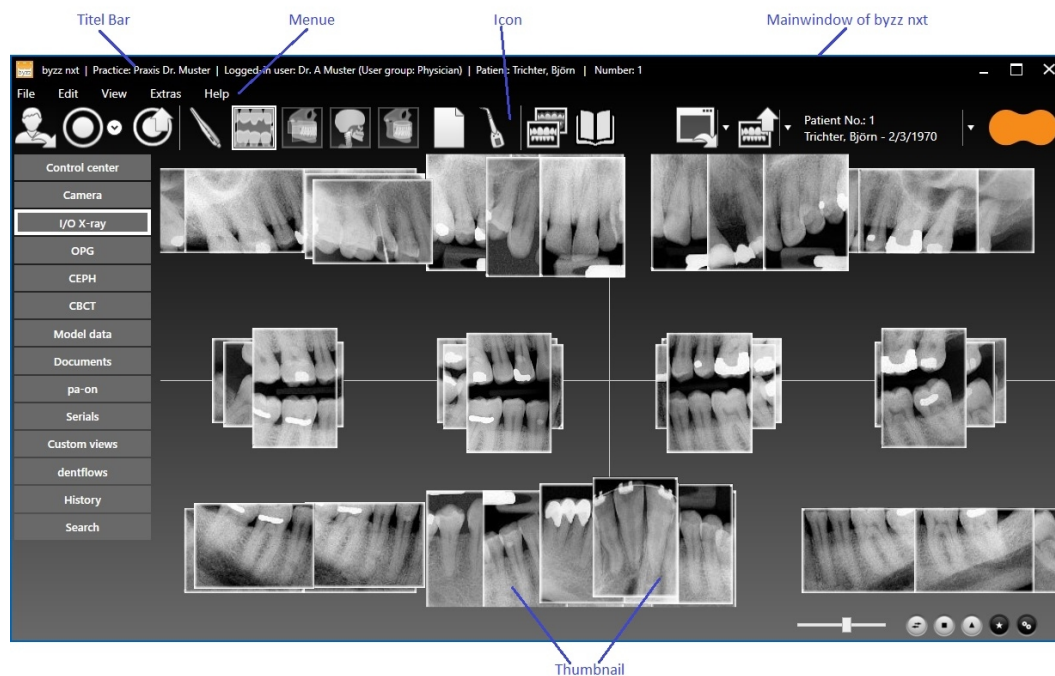
The symbol bar shows the individual symbols for the various views and functions. If these are not required, they can be masked as can the menu bar.

**Main window:**

The first screen displayed for the application is always referred to as the main window. Many dialogs are opened in their own windows.

**Thumbnails (preview images):**

A thumbnail is a small version of the image that roughly represents the contents of the image. These are not intended to be used for diagnostic purposes. Please always open the actual image by double clicking on it.



## 2. Installation

Before byzz nxt can be used, it must be installed; you can find brief instructions for the installation in the Setup chapter. The detailed installation procedure is not described in this chapter.

Other documents about the installation are listed in the “Other documentation” chapter.

**Note:** The version of byzz nxt shown in screenshots depends on the version that you have purchased and may therefore differ.

**Important:** Administrator rights are required to install byzz nxt. Permissions that are granted on the server during installation as well as the firewall rule are required for the operation of byzz nxt and must not be removed after the installation of byzz nxt.

### 2.1. System requirements

Please contact your specialist wholesaler or IT service about the necessary hardware requirements. byzz nxt has the following minimum requirements for the computer system, depending on the intended purpose.

#### Minimum system requirements:

##### Client:

- 4 GB RAM
- 2 GB free space on the hard drive
- Dual Core CPU
- DX10 graphics card with 512 MB
- **ATI/AMD:** Radeon HD 4650 and higher
- **NVIDIA:** From the 8000 series (from 8400 GS), 9000 series (from 9400 GT), or higher series
- Screen resolution: 1280 × 720

##### Server:

- 4 GB RAM
- 500 GB free space on the hard drive (depends on the scope of the byzz nxt package that has been purchased, the number of patients, and the type of data). If the patient data are transferred to another storage system (e.g., NAS), the server requires a minimum of 4 GB of free space on the hard drive.
- Dual Core CPU

#### Recommended equipment:

##### Client:

- Quad Core CPU
- DX11 graphics card with 2 GB or more
- Screen resolution: 1920 × 1080 (Full HD)
- SSD hard drive

##### Server:

- Quad Core CPU
- SSD hard drive
- Image Server (NAS) optionally possible

#### In server / client operation:

- Network with 1 Gbit or higher.

#### Operating system:

- **Windows 8.1, 10, 11**  
(32 or 64 bit – please note that not all hardware interfaces are possible under 64 bit)
- **Important:** byzz nxt cannot be installed on an operating system in which only applications from the

Microsoft/Windows Store can be added (e.g. Windows 10 S which is used on the Microsoft Surface Go for example).

- Server operating system: **Windows Server 2012, 2016, 2019, 2022**
- All installed operating systems must be maintained up-to-date (latest published patches/updates) further informations: <https://docs.microsoft.com/en-gb/windows/release-information/>

**Printers:**

- byzz nxt supports all printers and DICOM printers compatible with Microsoft Windows.

**Note:**

Please note that we can only guarantee that byzz nxt will function properly on a workstation on native installations of Microsoft Windows operating systems (Windows 8.1 / 10 / Server 2012 / Server 2016 / Server 2019) (examples of non-native systems: Virtual Machines, Parallels, VirtualBox, Wine, Boot Camp, etc.).

### 2.1.1. Requirements for the terminal server

If it is planned to operate byzz nxt on a terminal server, the following additional requirements must also be met for the operation:

**Server requirement:**

- Sufficient RAM for the possible number of sessions (simultaneously connected PCs).
- Terminal server role installed and also sufficient number of licenses to cover possible users (ATTENTION! high costs).
- Permissions and accessibility available in the practice network.
- byzz nxt is installed as single-user version (server+client) with sufficient users licensed (the same number as the sessions purchased for the terminal server is useful).
- If a terminal-capable PMS is used, check that access rights are correctly set for the VDDS\_MMI.ini in the Windows directory of the terminal server for remote desktop operation as well.

**Client requirement:**

- Terminal program installed – e.g., remote desktop connection (standard for Windows systems).
- Access to the practice network and sufficient rights for the users who are logged in.

**Workflow:**

You connect to the relevant terminal server and the screen for your server session is displayed by the terminal program. You can now start byzz nxt as usual. If you use a terminal-capable PMS, you can access the patients via PMS in byzz nxt as though it were a normal PC.

For each terminal connection a session with its own RAM is created on the server. The terminal capability allows byzz nxt to be started more than once on the same PC. The individual sessions are separated so that in the ideal case it is not apparent how many users are concurrently using the program.

If extreme delays develop when using byzz nxt and the additional programs, the RAM or the number of cores in the processors of the server may be dimensioned too small.

## 2.2. Program installation

If you meet the requirements for the hardware and software and have the necessary rights to install the software on your computer system, you can start installing byzz nxt.

You may still have to confirm a security prompt before actually starting the installation – this prompt is determined by the security settings of the user on your PC and can be adjusted if necessary.

### 2.2.1. Initial installation of byzz nxt

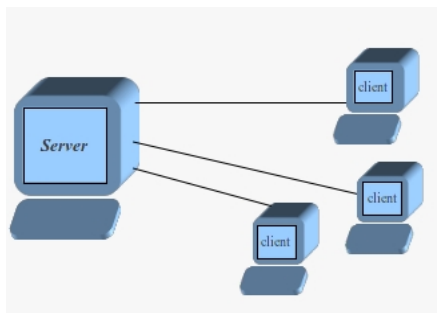
Please select how the byzz nxt software will be installed on your computer or computer system and carry out the corresponding steps.

The following options are available for you:

### Server installation

If you operate a network with several computers in your practice, these are connected to one another by cable or wireless. The workstation computers (treatment room, reception, office, etc.) are known as clients and the main computer on which all data are saved is known as the server.

Work is not usually carried out on the server – its tasks are providing data for the workstation computers and data backup, for example.



### Client installation

The workstation computer installation (client installation) must be carried out for each PC on which you would like to view the captured images or to which you want to export the data (e.g., printing, burning CDs, or sending data by email) and does not contain any database-specific elements.

### Single-user installation

The single-user installation corresponds to a combined client and server installation in which the database and the program are operated on the same PC or laptop.

## 2.2.2. Server installation

First log in to your server with administrator rights and start the installation process by inserting the supplied CD or executing the “byzz nxt.Setup.exe” file.

After the setup program has started, first select the language in which byzz nxt is to be installed. Click on "Next" to continue with the installation.

You will now be welcomed by the installation routine. Check that the version displayed matches the version of byzz nxt that you have purchased. Click on “Next” to continue with the installation.

You are then shown the licensing agreement. Please carefully read through the agreement before accepting it. When you click on “Accept”, you state that you have read and agree with the agreement. You can also print out the license agreement. Then click on “Next” to continue with the installation.

Select the “Server” installation mode. If a previous version of byzz that is valid for migration has been found, this is displayed. A notification is also shown whether PostgreSQL will be installed locally or an existing version will be used. By clicking on “Next”, the installation is continued.

You can now select the installation directory and the data directory. The installation directory defines where the program files for byzz nxt are saved. All the files for patients are saved in the data directory. Because the volume of data can grow to many gigabytes depending on the number of patients and the period of use of byzz nxt, it makes sense to store this directory where such quantities of data can be provided for. Migrating the database from previous versions of byzz can quickly generate large volumes of data. In the database itself, only references to the particular storage location for files, the names of the files, and the thumbnails of the images are saved. Both directories can be adjusted to the situation in the particular practice by clicking on “...”. To create the shares on the network, it may be necessary to have the rights of a domain administrator. If this is not possible, you must first create the data directory locally on the computer and then copy the content of the local directory into the

shared network directory (you will have to update the data directory path in the "Database" settings of the Server-Configurator). The option "Install database system" can be used to determine whether you already have a database in use and want to use it for byzz nxt. Currently only PostgreSQL and MS SQL Server are supported. Then click on "Next" to continue with the installation.

Depending on whether a database system is installed with the installation, the PostgreSQL selection will now display the versions found in a list. If no version is found, the option to install PostgreSQL is displayed instead of this list. If a valid version of PostgreSQL is not installed, the installation process cannot continue. By clicking on "Install PostgreSQL", you start the installation process for PostgreSQL.

After successfully installing PostgreSQL, the current version is now shown in the list and the installation of byzz nxt is continued by clicking on "Next".

It is checked whether the database is reachable and whether there is already a database of byzz nxt which can be updated. For customers without a maintenance contract it may be necessary to enter an "Update Signature". Several options are available for handling already existing byzz nxt databases. Then click on "Next" to continue the installation.

A summary of your entries is displayed for you to double-check. If you are satisfied, click on "Install". If you are not satisfied, you can return by clicking on "Back" and correct your previous entries.

Once these preparatory tasks have been completed, the installation program copies all the necessary program files into the installation folder and then creates shortcuts in the start menu and adds the program to the Windows registry. If a database system is also installed, the database for byzz nxt in PostgreSQL is created automatically.

At the end of the installation process, you can choose whether to start the program, start the migration (only available if a previous byzz installation has been found), or do nothing.

The installation is finished by clicking on "OK" and the Server-Configurator will be started.

**Note:** Please do not abort the start of the Server Configurator, as it already provides the required server access for the clients at startup.

### 2.2.3. Client installation

To install the program for your workstation, the **Server installation** step must be completed. The sequence is the same as for the server installation up to the selection of the type of installation.

You can now select the "Client" installation type. By clicking on "Next", the installation is continued.

You can now select the installation directory. The installation directory defines where the program files for byzz nxt are saved. Usually you need only confirm the suggested folder by clicking on "Next".

You can now select which specific devices you would like to also install locally, that is, on the computer on which the setup was just started. Check the corresponding boxes and continue the installation process by clicking on "Next". All other devices (c-on nxt, PaX-i (3D)) are installed as standard.

A summary of your entries is displayed for you to double-check. If you are satisfied, click on "Install". If you are not satisfied, you can return by clicking on "Back" and correct your previous entries.

Once these preparatory tasks have been completed, the installation program copies all the necessary program files into the installation folder and then creates shortcuts in the start menu and adds the program to the Windows registry.

At the end of the installation process, you can choose whether to then start the program or simply finish the installation (no action). You can also install the included Adobe Reader, which is required to read the PDF documents such as the user manual. If you prefer another program, you can ignore this.

If everything is to your satisfaction, click on “OK”. This finishes the installation.

### Starting byzz nxt for the first time

At the first start of byzz nxt the program will automatically search for the server service in the network. Please note that this may take half a minute even with a purely local installation (server and client on the same computer). If only one server service is found, it is automatically taken over and byzz nxt starts. If more than one server service is found, a selection window is displayed, select the correct server service and confirm with "OK". If the service was not found automatically, you can also enter the connection information yourself in the displayed selection window. If the computer is not in the same domain as the server, a domain user account can be specified here to access the server. The domain user must have the access rights to the PostgreSQL server, as well as to the network shares of the data directory and the setup directory.

#### 2.2.3.1. Unattended installation

For a client installation, the setup offers the possibility of an unattended installation that does not require any further user input. The following parameters can be specified:

Schalter	Alternatives	Meaning	Further Information
-help	/help or /? or -?	Displays the help for the command line parameters in a window.	If this switch is specified, all other command line parameters are ignored.
-quiet	/quiet or /q or -q	Tells the setup to run through automatically. If no further information is given, the default settings are used.	Default settings: Default installation path, no devices.
-installpath <absolute path>	/installpath or /i or -i	Absolute path for the installation location.	Optional specification. If this switch is not specified, the installation is performed in C: \Programme (x86)\byzz nxt

#### 2.2.4. Single-user installation

The sequence is the same as for the **Server installation** up to the selection of the type of installation.

You can now select the “Client + Server (also for single user installations)” installation type. If a previous version of byzz that is valid for migration has been found, this is displayed. A notification is also shown that PostgreSQL is installed locally or an existing version will be used. By clicking on “Next”, the installation is continued.

The installation subsequently proceeds as for **Server installation**. For this installation type, as for the **Client installation**, specific devices can also be selected that should be included in the installation.

## 2.3. Installing updates

Updates and bug fixes are regularly released for byzz nxt. If you have a service contract, you will receive these product updates free of charge.

To install an update, insert the supplied CD or alternatively start the “byzz nxt.Setup.exe” file. byzz nxt Setup detects an existing installation and then starts the update installation.

Before the actual installation begins, an inquiry is made via the Internet as to whether the update may be installed free of charge or whether a service contract is available. If the update is not free and no service contract has been concluded, the installation must be started via the hotline. The same applies if the update is not free and the computer has no connection to the Internet.

**Important:** While byzz nxt is being updated, no instances of byzz nxt should be used in the practice. In the worst case, the database can be negatively affected and there is a risk of data loss.

At the end of the installation process, you can choose whether to then start the program or simply finish the installation (no action).



If everything is to your satisfaction, click on “OK”. This finishes the installation.

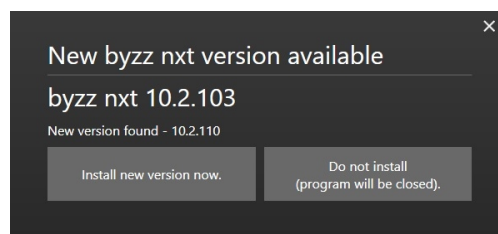
A special form of the centrally controlled update is the **Network update**.

### 2.3.1. Network update

In the server-client mode of byzz nxt, the update is only installed manually on the server. After a successful update on the server, the clients detect that there is a new update available when byzz nxt is started. A dialog appears asking whether the latest update should be installed.

Because it does not make sense to operate byzz nxt with an outdated client, the only options available are to install the client update or end the program.

**Note:** If the automatic network update does not start, the client may not have access to the Setup folder for the server. This folder is enabled in the network during installation on the server. On rare occasions an antivirus program may prevent the byzz nxt Setup file from being updated due to false positives. In this case the Setup file must be manually copied to the Setup folder of the server so that the network update can function correctly again.



## 2.4. Changing device configuration

The device configuration can only be changed with a client or single-user installation. To change the configuration, that is, to add or remove devices to be controlled, you have several options.

Insert the supplied CD or alternatively start the “byzz nxt.Setup.exe” file. If you do not have either available, you can also start the “byzz nxt.Setup.exe” file using the network sharing for the byzz nxt server “\\<Computername>\byzznxtResources\Setup\” or by double clicking on the “byzz nxt” entry under “Programs and Features” or “Apps and Features”. Click on “Change” to proceed with the device configuration.

Now select which components and the associated drivers you would like to install/uninstall and confirm by clicking the “Next” button.

A summary of your entries is displayed for you to double-check. If you are satisfied, click on “Install”. If you are not satisfied, you can return by clicking on “Back” and correct your previous entries.

Once these preparatory tasks have been completed, the installation program copies all the necessary program files into the installation folder and adds the program to the Windows registry.

If you are installing a device from orangedental for the first time, depending on the operating system you may be asked whether you want to install the device or not. Place a check next to “Always trust software from ‘orangedental GmbH Co. KG’” and confirm with “Install”.

At the end of the installation process, you can choose whether to then start the program or simply finish the installation (no action).

If everything is to your satisfaction, click on “OK”. This finishes the installation.



## 2.5. Licensing

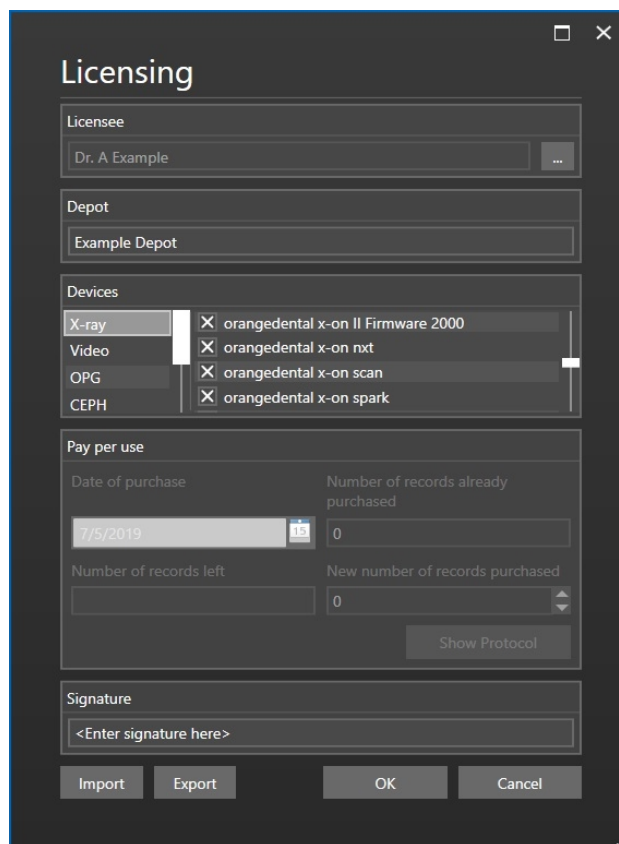
The byzz nxt software is made up of the following modules:

- **ray** (software package for all relevant radiographic systems incl. x-ray control book).
- **vision** (software package for all optical input sources such as intraoral camera, microscope, Dentaloscope or digital camera).
- **practice** (software package for the pa-on probe including therapy planning, consultancy catalog function).
- **ibyz** (software package for controlling the iOS byzz app).

If you have installed byzz nxt and the connection to the database has tested positively, you can license the software in accordance with the scope purchased.

Please contact the orangedental Central Office on +49 (7351) 474 99 – 20 to do so.

The scope of the purchased modules is stated on the delivery note from your specialist dental supplier – you can order other modules there.



## 3. Server-Configurator

The server configurator controls the following settings:

### 3.1. Server

#### Server Settings

Client access to the server service is either via the DNS name or the IP address of the local computer. Furthermore, a port is required - this is preset to 8100 by default.

To allow clients in the network to access the service, a firewall rule is entered via the "Make this server available to workstations in the network" switch. If desired, this can also be created manually as described below.

To allow remote server services to access the database installed on this computer, a firewall rule is entered via the "Make this database server available for servers in other networks" switch. However, this is not required if the own server service accesses a remote database or no other server services access the own database.

#### Manual firewall setup

To start Windows Firewall, click Start, click Control Panel, click System and Security, and then click Windows Firewall. To enter rules, press Advanced Settings.

Redefine Incoming Rule:

- Select "Incoming rule" on the left-hand side and "New rule" on the right-hand side.
- Select "Program" as the rule type and click "Next".
- Now enter the path to "byzz.Server.Service.exe" in the installation directory of byzz as the program path of byzz nxt and click "Next".
- Click 3 more times on "Next" without changing anything and enter a name and optionally also enter a description for this rule.
- Close the rule with "Finish".

#### Own DICOM Server

Here the AE name and the port of the own application is defined, under which the other services can reach the application.

#### Remote server (support of multiple locations)

The service can also access a database that is located at another site and is integrated into the network via VPN, for example. In addition to the information in the **database** settings, the plus in the upper right corner of the "Remote Server" area indicates the remote computer on which a server service is also running. Please note that you may also need a user name and password in addition to the host and port information. If the remote computer is not in the network with the same name (domain), you also need the domain information.

The entry of the remote servers is required so that the server services communicate with each other and inform each other of changes (e.g. to the patient list).

### 3.2. Clients

Connected clients are listed for each connection here.

### 3.3. Databases

Under this item you can set or change the connection settings to the database.

**Attention:** Changes should only be made by the administrator or IT technician.

#### 3.3.1. General operating elements

On the right side of the database settings there are several buttons, which are described in more detail below.

**As default** (only active if the selected connection has access to the database and is not already set as default)

The currently selected connection under "Stored connections" is set as the default and used as the primary connection from the next start.

**New**

Creates a new connection and switches to edit mode.

**Edit**

Switches to edit mode and activates the input fields to describe the connection.

**Delete**

The currently selected connection is removed. Click on "Delete" to display a confirmation prompt whether you really want to delete this connection.

**Test**

It is checked whether the database can be addressed with the current connection settings.

**Cancel** (only active in edit mode)

The edit mode is terminated and any changes made are discarded.

**Save** (only active in edit mode)

The edit mode is terminated and all connections are saved.

**3.3.2. Stored connections**

Already saved connections can be selected here.

**3.3.3. Connection settings**

**Name**

Freely selectable name for a database connection.

**Database type**

The type of database can be selected. The default for byzz nxt is Postgres.

**3.3.4. Database settings**

All data required to establish a connection to the database are specified here. This includes the server name or the IP address, the port and the name of the database with which a connection is to be established (default is "byzz"). The "Active" button indicates whether the connection is currently available or not.

**3.3.5. User preferences**

The required user data is stored here in order to be able to establish a connection with the database.

**3.3.6. Data directory**

The directory in which the data is stored is specified here. It is possible to specify network paths or URLs. The data directory can be selected by clicking on "...".

**3.4. Data backup**

Backups are created by the server service and configured via the configurator or **byzz Maintenance**. For this, one or more target directories must be defined beforehand, which can be addressed via alias names. This procedure allows you to distinguish between different backup types if required.

Please note that any changes require a restart of the service!

Please also note that orangedental accepts no liability for lost, damaged, non-executed or otherwise unusable

backups.

### 3.4.1. Storage locations

The locations indicate where the server service stores the backup files.

The following actions are available:

- Add location: Click Add, specify the desired directory and then an alias name for it.
- Edit: Click the pencil icon in the corresponding row to customize the name or destination directory.
- Delete: Click the x at the end of the corresponding line to delete the entry. If there are still backup tasks assigned to this location, a confirmation prompt appears.

### 3.4.2. Automatic backup deletion

Data backups require a not inconsiderable amount of storage space over time, depending on the procedure. Deletion automation offers a simple mechanism to regulate the number of backups. A distinction is made between complete and exclusive database backups. Incremental backups are treated like backups that only backup the database, i.e. the backup of the data directory is not deleted.

Candidates are deleted if they are older than x days (x is defined stepwise in the range 3 - 30). However, this rule is restricted by another criterion that defines the minimum number of backups that are kept (even if they are already older). The number of backups to be kept is also defined stepwise in the range of 3 - 30. Only if both criteria are met, the backup is deleted.

### 3.4.3. Connections

The connections managed by the Server Configurator are displayed here.

### 3.4.4. Backup tasks

Depending on the selected connection, all scheduled backup tasks are defined and displayed here.

#### Automatic backup

Regardless of the settings made here, automatic database backups are performed under  
C:\Programdata\<<program name>\AutoBackups\connection name.

The number of backups is limited. Backups are deleted if they are older than 7 days, but at least 3 are kept.

### 3.4.5. Manual backup

You can create manual backups in three different ways: Incremental, complete, or just the database. Click "Backup Now" to start the backup process. The storage of the backup files depends on the selected connection and the selected storage location.

The data directory is also backed up incrementally and completely, whereby only the delta (modified files) is backed up incrementally if a backup already exists.

### 3.4.6. Restore backup

Depending on the selected connection and storage location, all backups that are eligible for recovery are listed. Backups created without a backed up data directory are marked as such (database only).

- If the "Database only" option is set, only the database will be restored, leaving the current data directory untouched.
- If the option is not set and an attempt is made to restore a backup without a data directory, this recovery is treated as if the option were set.

Note that only administrators can perform a restore.

## 3.5. PACS Settings

The PACS settings are only visible after the corresponding option has been activated under Miscellaneous → PACS/RIS in the license. You can then configure access to the various PACS services. Important: Each service

requires an individual port that is not used by any other services.

### 3.5.1. Application

Here the AE name and the port of the own application is defined, under which the other services can reach the application.

### 3.5.2. Storage

Here the PACS storage service Storage SCP is entered with its AE title, host address and port.

### 3.5.3. Commitment

Here the Storage Commitment Service of PACS is entered with its AE title, host address and port.

### 3.5.4. Worklist

The worklist of RIS contains the current work tasks. Here the service is entered with its AE title, host address and port.

### 3.5.5. Performed step

In the Performed Step the MPPS service of RIS is entered with its AE title, host address and port.

### 3.5.6. Query/Retrieve

In Query/Retrieve the QR SCP service of PACS is entered with its AE title, host address and port.

### 3.5.7. Printers

Here a PACS capable DICOM printer can be entered with its AE title, host address and port.

### 3.5.8. Other Services

Here further PACS capable devices such as a DICOM burner can be entered with AE title, host address and port.

### 3.5.9. Delete

Here you can set whether and how long byzz nxt saves the patient images. In a PACS/RIS environment patient data is stored in the Storage SCP and not in byzz nxt as usual. If a preview image is clicked on in byzz nxt, if not available, the image is loaded from the Storage SCP back into byzz nxt via the QR SCP service and then displayed.

## 4. Data security

byzz nxt manages your data in a SQL database. The recordings are stored in a directory structure on the data drive of your choice. With byzz Maintenance, a tool has been created which can be used in the The system is able to save the data as well as the database and to restore the backups made. You can choose whether only the database is to be backed up, incrementally or completely. Also Time-controlled backup can be set up.

Before the migration of a database of the predecessor byzz, the consistency of the data is checked by the byzz Migrator and output existing errors and inconsistencies. When it is decided to migrate the results output is sent to the Migration protocol added.

To ensure maximum data security, you must create regular backups, so that you can restore the data even after a system failure.

For further information on data security, please refer to the **Important User Information** chapter.

## 5. First steps

Here we show you how you can quickly achieve what you want in just a few steps. Normally you select your patients in your practice management software and jump with this information to the byzz nxt program by clicking on a button – you can, however, take other paths.

To make your introduction to the program easy, we have put together some tips below for you.

### 5.1. Opening an existing patient

When starting byzz nxt without a PMS, you are already in the patient selection menu by default. If you have set up your client so that the last patient is immediately loaded, click on the symbol on the top left of the main window below the File menu.

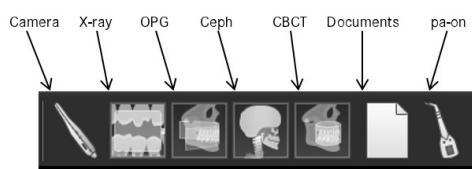
This opens the patient list, which also includes the search and filter bars. In this bar you can make the following entries:

- Search by patient number (e.g., “1” for the demo patient)
- Search by surname (e.g., “Smith”)
- Search using starting letters, separated by a comma (e.g., “Sm,Ma” for Smith, Mary)

For data privacy reasons, the patient list is hidden when the patient selection is opened. It can be displayed by clicking on “Show patient list”. You can change this behavior in the settings.

### 5.2. Change view

To switch between the views (e.g., OPG, camera, x-ray, DVT) and to look at the required images, you can use the symbols in the top bar or alternatively the sidebar on the left pane of the main window. A single left mouse click takes you to the desired module and then to the image. A single right mouse click opens the settings for the particular view.



### 5.3. Open image

After you have opened the required patient and are in the correct view, you can see all the images that are available for this patient. By double clicking on the thumbnail, you can open the required image.

You can change the dimensions and position of the window and permanently save the changes. To do so, proceed as follows:

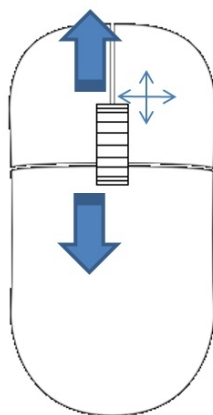
- Change the position and size of the opened window as required.
- Save your changes permanently using main menu File => “Save working position”.
- When an image is next opened in this view, the window appears in the saved size and position on the screen.

### 5.4. Edit image

You have just opened your first image by double clicking on it and may have moved it to the correct position and saved.

You can now adjust the brightness and contrast by holding down the right mouse button on the image and moving the mouse up/down or right/left.

Using the scroll wheel (middle), you can zoom in and zoom out the image



## 5.5. Export data

You can export your data in several ways, e.g., saving to a USB stick, burning a CD, or sending by email.

All that is required is to click with the right mouse button on the thumbnail and open up the Export Dialog – read about the process in more detail in the **Export** chapter.



## 6. Settings

The program settings can be accessed using the menu Extras => Settings or CTRL + O. Here you can adjust your installation to the situation in your practice. All the possible settings are listed and described below.

### 6.1. Admin

All global settings for byzz nxt are found under this option. The settings in this option can only be modified if a user is logged in with administrator rights.

**Attention:** This changes the settings for the entire practice and not only for the client that is currently logged in.

#### 6.1.1. Options

##### **Ask for password for deleting documents and non-x-ray images**

The password is required before deleting any file. If this option is not selected, the security question is only asked if a non-x-ray image is deleted. Views in which non-x-ray images can be found include "Camera" or "Documents".

##### **Don't allow empty passwords**

If this option is not selected the password fields do not have to be filled in Practice Management. This enables all passwords from existing practices and users to be removed and new practices and users to be created without passwords.

##### **Allow default login**

In the login window a selectable option appears to set the currently used login as the standard login. If the standard login is set, this user will always be automatically logged in into byzz nxt but only on this computer. The standard user can be reset using the common settings. If the option is not selected, the option is grayed out in the login window.

##### **Allow default VDDS login**

If a patient is opened from a PMS via VDDS, the person who is entered as the treating dentist is automatically logged in. If the dentist or the practice with the number stored in the PMS is not available, either just the dentist or the practice as well is created in byzz nxt.

##### **Allow guest login**

In the login window you can log in as a guest. As guest you have much less rights than if you are logged in as user.

##### **Extended User Management**

If this option is activated, the administration of user groups and permissions is completely taken over by the practice. You can define your own user groups in the practice administration, to which you can assign authorizations during creation and which can also be changed afterwards.

##### **Release scanned images explicit**

When this option is enabled, scanned images must be shared by the authorized users. Only after the release has taken place will the recording be displayed to all users.

##### **Send images to PACS without order**

If this option is activated, recordings that were made without a recording job are also transferred to PACS.

#### 6.1.2. Record parameters

##### **X-ray exposures require record parameters**

In the confirmation dialog of the recording process, you cannot confirm with "OK" until the required recording parameters have been entered. These include, for example: X-ray voltage, current, exposure time.

##### **Never display recording parameter dialog**

If recording parameters are not required, the appearance of the confirmation dialog can be prevented.

### 6.1.3. External image management

When this external image management function is activated, several options become available.

#### **Mark external images**

When this option is activated, external images are given a colored frame.

#### **External images require practice data**

During import, the data of the practice that took the image is queried.

#### **Creating a copy for external images**

A copy of external images is created. If the option is activated, a path for the external copy can be entered in the field below.

### 6.1.4. TransCrypt

#### **This computer manages the TransCrypt files/history**

This option specifies that this workstation starts the TransCrypt Downloader already at startup and actively requests the TransCrypt server for new files or updates to already sent files. The updates are entered into the TransCrypt history. When new files are available, they are automatically downloaded and imported into byzz nxt to the correct patient in the correct practice. Practices are created as well as patients if they do not yet exist.

#### **dentFlow Partner Email**

Here you can define the mail address for the dentflow partner. This is only required for practices that use the orangedental's "dentFlow" workflow. This option is not available for all other practices relevant.

### 6.1.5. Auto log out

#### **Auto log out after**

Here you can define if and after what period has elapsed byzz nxt automatically shows the lock screen. From the lock screen you can log in again or end byzz nxt.

This measure increases the data security in the practice. Please notice that users are only logged out if no dialog window is open.

### 6.1.6. Configure Workstation Facilities

The dialog "Configuration of work equipment" is started. In this dialog X-ray equipment can be assigned to the corresponding workstations. The purpose of this assignment is to enable recording jobs to be sent to this station from all other workstations in the network. With "OK" the dialog is closed again after the configuration.

#### **Existing facilities**

The currently existing and configured X-ray facilities are displayed in byzz nxt under existing facilities. These can be changed via the "Edit" button, or new X-ray facilities can be added via the "New" button. If an X-ray device is already assigned to the currently selected workstation, it will only appear in the list of assigned devices, but no longer appear in the list of existing institutions.

#### **Workstations**

Contains all workstations in the network that have logged on to the server at least once. Use the "Delete" button to remove workstations from the list. Via the "Edit" button it is possible to assign different names to the workstations (e.g. "X-ray1", "Treatment3", etc.).

#### **Assigned facilities**

To assign facilities, first select the workstation to which an X-ray facility is to be assigned. From the list of existing facilities the desired X-ray facility is then selected and added to the list of assigned facilities with the

right arrow. The left arrow removes the institution from the list of assigned institutions.

### 6.1.7. Configure Admin-Users

A dialog opens in which you can specify which already created users should belong to the user group "Admin".

## 6.2. Common

All general settings for the client on which you are currently located are found under this option. These settings are local, that is, they do not affect other clients in a possible practice network.

### 6.2.1. Tooth schema

You can select the country-specific tooth schema.

The available options are:

Tooth schema	Counting: from – to		
FDI tooth schema	Upper Jaw:	1 8	2 8
	Lower Jaw:	4 8	3 8
Tooth schema according to Haderup	Upper Jaw:	8+	+8
	Lower Jaw:	8-	-8
British	Upper Jaw:	ur8	ul8
	Lower Jaw:	lr8	ll8
Alternate UNS (Universal Numbering System)	Upper Jaw:	1	16
	Lower Jaw:	32	17

### 6.2.2. Language

Here you can set your preferred language. By clicking on the arrow on the right pane of the selection window, a dropdown menu appears that shows all the possible languages. You can make your choice here.

After you have made your choice and left the setting, a dialog will be displayed with the message that a restart of byzz next is required to change the language.

### 6.2.3. On patient opening

You can define here which view will be opened when the patient is opened from the patient list.

#### Show last view

The last view shown is loaded.

#### Show specific view

The view that is selected in the dropdown menu is always started (standard is the Control Center).

### 6.2.4. Miscellaneous

You can adjust a range of settings here to your needs.

#### Open last patient on program start

When the program is started, the last opened patient is loaded immediately.

#### Save thumbnail with higher resolution

The thumbnails for the images are saved with a higher resolution. This means that the thumbnails are considerably richer in detail but the size of the thumbnails increases accordingly. The thumbnails are saved in the database and not in the data directory. The space that the database takes up on the server is correspondingly larger as a result of this setting. Changing this setting leads once to recreation of the thumbnails the next time a view is entered, which means that the loading process for a view may take a little longer if there are many

images.

### Close big image window on view change

If you have opened images (e.g., an OPG) and change to another view (e.g., camera), you can choose here whether the opened images remains open or are closed.

### Show patient list immediately

If you do not have any data privacy concerns, you can select here to have the patient list display immediately without clicking on “Show patients list”.

### X-ray record requires birthplace information

If this option is selected, it is not possible to start taking an x-ray image if the data for the current patient does not include the location of birth. The location of birth is also displayed in the x-ray control book.

### Immediately show zoom monitor on image view opening

If an image is opened, the zoom monitor is also immediately displayed in the lower right corner.

## 6.2.5. Login

The user who has been set as the standard login is displayed (and therefore no longer displays a login window when byzz nxt is started up). This setting is local and only applies to the current workstation.

By clicking on “Reset”, this setting is removed which means that the login window is displayed again when the program is next started.

## 6.2.6. Log (Logging)

For service purposes, you can set the level of detail that the software should log any work carried out in byzz nxt. To change this, click on the small arrow of the dropdown menu. The standard setting after installation is “Warning”.

**Attention!** If you select the highest level, byzz nxt may slow down.

The individual levels mean:

- Critical: Only critical errors are logged.
- Error: All errors are described.
- Warning: All warnings are logged.
- Information: All additional information is logged.
- Detailed: All actions carried out by the software are described (should only be activated if instructed to do so).

## 6.2.7. Start time

If the workstation does not have an internet connection, there may be a delay of about 30 seconds each time the program is started while the program attempts to carry out a certificate test for the signed applications. Because this is not necessary for such a workstation, the test can be deactivated here.

## 6.3. Server

Under this item you can set or change the connection settings to the server.

**Note:** Änderungen sollten nur vom Administrator oder IT-Techniker vorgenommen werden.

### Server name

The name of the server that, depending on the configuration of the server, represents either an IP address or the DNS name of the server. It should not be necessary to change this value manually.

### Server port

The configured and open port on the server. The connection to the byzz nxt server service is possible via this port.

In order to establish a connection if the computer is outside the domain of the practice network, the following information must also be provided:

**Domain**

Here you enter the name of the domain of the practice network.

**User**

The user name that can be used to access the domain. The user must be a member of the domain and have sufficient rights to access the required data and directories.

**Password**

The password for the domain user

**Find server**

The search in the network is started, where an attempt is made to find the byzz nxt server automatically. If the server is found, all relevant data is automatically transferred to the fields described above.

**Check and save**

The connection to the byzz nxt server is checked and then saved.

**6.4. Practice management**

In the practice management you can define, edit, and delete practices and users. The users can be assigned to practices in the user management.

**6.4.1. Practices**

You can create, edit, or delete practices here.

**Plus**

Click on the "Plus" symbol to create a new practice. Please define a practice number - the practice number is not the stamp number. Depending on how you have chosen the **Admin settings**, a password may or may not be required. If you are using a PVS, the practice number is also transferred. If the practice number transmitted via VDDS does not exist, a new practice is automatically created. If desired, the address and connection data of the practice can also be entered. These are also transmitted via TransCrypt, for example, for unique identification.

**Edit practice**

By clicking on the pencil symbol next to a practice, you can edit the practice details and adjust any corresponding data. The practice number is not identical with the stamp number and is required for the VDDS interface. Depending on how you have chosen the **Admin settings**, it is either mandatory to enter a password or not.

**Delete practice**

You can delete a practice using the red X next to the practice. A security prompt appears asking whether you really want to delete the practice. You can only delete if more than one practice exists.

If users are assigned to a practice, they are not deleted. However, the program checks whether patients are assigned to the practice users. If this is the case, another dialog is opened that enables you to assign these users to a different practice. This process must be completed first, otherwise the practice cannot be deleted.

**6.4.2. Departments**

In clinics as well as in very large practices, a division into different departments is common. Here you can determine which departments you have. Furthermore, you can determine which X-ray orders the department can see, which external images are visible to the department and which X-ray equipment is available in the department.

### 6.4.3. Usergroups

Here you can create, modify or delete user groups. The user group determines which rights the assigned users have in the program.

#### **The following applies to the simple user management variant**

Based on the previous version of the practice management, the user groups "Doctors", "Users" and "Partners" exist. The group "Admins" exists, but its assignment has been moved to the Admin - settings. Furthermore, neither new user groups can be created, nor existing ones deleted or changed.

#### **For the extended user administration applies**

If the extended user administration is activated in the Admin - settings (see **Options**), the practice itself is responsible for the design and setup of the user groups. It creates the groups itself and determines the rights of the assigned users. Since the user group "Partner" has a special position, it is also available in the extended user administration. This special group can neither be changed nor deleted. The other predefined user groups are not visible in the extended user administration and cannot be used.

### 6.4.4. Users

You can create, edit, or delete users here.

#### **Plus**

Clicking on the "Plus" symbol creates a new user. All users who want to log in to byzz nxt must first be created as users. Only the assignment to a user group gives the user the necessary rights to work with the program. Depending on the selections made in the **Admin settings**, you may need to enter a password here.

#### **Edit user**

If you click on the pencil symbol next to a user, you can edit that user. The name, the abbreviation, the mail address and the password for the user can be modified. Depending on the selections made in the **Admin settings**, you may need to enter a password here.

#### **Delete user**

You can delete a user by clicking on the red X behind the user. A security question appears asking whether you really want to delete the user.

Apart from the administrator group, you can only delete users who are in the group subordinate to your own user. Thus a user in the "Dentist" group can delete a user in the "User" group, for example.

The "Administrator" user cannot be deleted. For every newly created practice, the "Administrator" is entered as a member and cannot be removed. Other users from the Admin group are not able to delete themselves either.

If a user is deleted to which patient data is assigned, the program first asks to which user these data should now be transferred. If no other user can be specified, this user cannot be deleted.

### 6.4.5. Partners

Here you can create, edit or delete partners.

#### **Plus**

With a click on the "Plus" symbol a new partner is created. Partners are particularly useful if patient data is to be sent frequently to a specific address. If this partner is then assigned to the user group "Partner" of the respective practice, it can be easily selected from a menu when exporting the data. When you create a partner, you can also invite them to **TransCrypt**.

#### **Edit partners**

If you click on the pencil symbol behind a partner, you can edit this partner and invite him to TransCrypt.

#### **Delete partner**

With the red X behind the partner, you can delete him. A confirmation prompt appears asking whether you really want to delete the partner.

#### 6.4.6. User management

Here users can be assigned to or removed from a user group of the practice. The users that can be assigned to the selected user group are listed on the right, and the users already assigned to the practice are listed on the left. Between the two sides the assignment can be made or removed with the arrow keys in between.

A user who is currently logged in cannot remove himself/herself from the practice assignment.

If you are working with a PVS which does not transmit a treating physician, a physician can be defined as the default physician in the user group "Doctor" in the column "Standard". This doctor is then always logged in automatically when a patient is opened via the PVS in byzz nxt.

Partners are only displayed for selection if the corresponding user group is also selected. Only partners are displayed in the selection.

## 6.5. Control Center

Settings can be defined here for the byzz Control Center (bCC).

### 6.5.1. Common

#### Exact image assignment in tooth elements

If checked (standard setting), dental tiles contain only images with the teeth that are included in the tile. Otherwise, all images are shown that contain one or more teeth from the tile.

### 6.5.2. Elements

Includes a summary of all bCC tiles that can currently be displayed.

### 6.5.3. New process element

You can integrate an application to the bCC as a process element here. Simply drag and drop the executable file for this application here with the application running. The name of the tile can also be set as well as the frames per second rate (FPS). The new element is also shown after saving in the list of elements. This process element can, like all other elements, be shown in the bCC and represents the application as a tile in the bCC.

Currently, process elements that have been created cannot be changed. You can, however, delete the element from the list (only process elements can be deleted) and create it again.

Please note that process tiles can affect the performance depending on the frames per second rate. Therefore, on less powerful systems you should keep the number of process tiles as low as possible or reduce the frames per second rate for the particular tile.

## 6.6. Camera

You can modify all the default settings for the camera view for your local client. Clicking on "Apply" saves the settings.

### 6.6.1. Background

This is where you define the background for the view.

#### Default

The standard settings for the background are used.

#### Color

If the color option is marked, you can open the color choices by clicking on “Click to set a color”. Define the background color in the color choice, remembering to also define the transparency for the color (RGBA). The color will only be visible on the settings window if the transparency is set to be higher than 0.

### Image

If the image option is marked, you can open the file manager by clicking on “Click to load picture” and then navigate to your new background image. By clicking “Open”, the image is used as the background image. You also have the option to “Stretch” the background image. To do so, mark the option below the image.

## 6.6.2. Images (Thumbnails)

This is where you can change the visualization settings for the thumbnails.

### Dimension and distance

By adjusting the “Dimension” slide control, the size of the thumbnails can be adjusted and using the “Distance” slide control, the distance between the thumbnails can be changed.

### Default sorting

The sorting of the thumbnails can be defined as either “Ascending” or “Descending”.

### Show last image on entering view

If the view is opened for the first time, the last image that was taken is shown.

## 6.6.3. Live Import

You can adjust the options for all images that are imported into byzz nxt using live import (e.g., cable / wirelessly).

### Remove images after live import

All images are deleted physically from the import directory after the import.

### Remove not imported images after live import

All images that were not imported are physically deleted from the import directory, after a confirmation prompt.

### Allow only JPEG for live import

Only JPEG images will be shown for importing using live import.

### Import path

The import path where byzz nxt reads the images can be configured here. If the path is not available or not configured, the field is highlighted in color.

## 6.6.4. Zoom Options

The zoom options do not currently have any effects and are reactivated at a later point after implementation of the corresponding functions.

## 6.6.5. External Copy

There is the option of also filing each image that is imported in the camera module externally as a copy. The images can, for example, be used there by other image processing programs.

### Create external copy on import

You can switch this function on or off here. Only when this function is switched on can the other options be modified.

### Place external copy in sub folder

This is where you can define whether separate subdirectories for the images are created for different patients.



## External copy path

Here you can define the directory where the imported images are saved and where subdirectories are also possibly created. If the path is not available or not configured, the field is highlighted in color.

## 6.7. X-ray

You can modify all the default settings for the x-ray view for your local client. Clicking on “Apply” saves the settings.

### 6.7.1. Background

See chapter "Camera" => **Background**

### 6.7.2. Images (Thumbnails)

See chapter "Camera" => **Images (Thumbnails)**

### 6.7.3. Zoom Options

See chapter "Camera" => **Zoom Options**

### 6.7.4. Set standard x-ray parameters

In the dialog "Set default acquisition parameters" you can set default values for the different areas of the dentition depending on the X-ray equipment.

On the left side all existing and active small X-ray devices can be selected. For each facility the X-ray parameters voltage, current and exposure time can be defined.

With the button "Assign these values to other devices" you can copy all defined values of a device to one or more selectable other devices.

With the button "OK" you can leave the dialog again.

## 6.8. OPG

You can modify all the default settings for the OPG view for your local client. Clicking on “Apply” saves the settings.

### 6.8.1. Background

See chapter "Camera" => **Background**

### 6.8.2. Images (Thumbnails)

See chapter "Camera" => **Images (Thumbnails)**

### 6.8.3. Zoom Options

See chapter "Camera" => **Zoom Options**

## 6.9. Ceph

You can modify all the default settings for the cephalometric view for your local client. Clicking on “Apply” saves the settings.

### 6.9.1. Background

See chapter "Camera" => **Background**

### 6.9.2. Images (Thumbnails)

See chapter "Camera" => **Images (Thumbnails)**

### 6.9.3. Zoom Options

See chapter "Camera" => **Zoom Options**

## 6.10. CBCT

You can modify all the default settings for the CBCT view for your local client. Clicking on “Apply” saves the settings.

### 6.10.1. Background

See chapter "Camera" => **Background**

### 6.10.2. Images (Thumbnails)

See chapter "Camera" => **Images (Thumbnails)**

### 6.10.3. CBCT programs

Unlike all the other modules, double clicking on a thumbnail in the CBCT module does not open the internal viewer but instead opens an external program. Here you can select for your local client which program opens this dataset. The programs listed are not included in the delivery contents of byzz nxt and must be purchased separately where necessary.

Program	Info page (without warranty)	Comment
Blue Sky Plan	<a href="https://blueskybio.com/pages/free-treatment-planning-software">https://blueskybio.com/pages/free-treatment-planning-software</a>	Free of charge in some cases
byzz 3D	Included with the purchase of orangedental CBCTs, if applicable	
CoDiagnostiX	<a href="http://www.codiaagnostix.com">http://www.codiaagnostix.com</a>	
EZ3D 2009	Included with the purchase of orangedental CBCTs, if applicable	
EZ3D-i	Included with the purchase of orangedental CBCTs, if applicable	
EZ3D	Included with the purchase of orangedental CBCTs, if applicable	
EzImplant	Included with the purchase of orangedental CBCTs, if applicable	
OnDemand3D	<a href="https://www.ondemand3d.com/pages/ondemand3d/what-is-ondemand3d">https://www.ondemand3d.com/pages/ondemand3d/what-is-ondemand3d</a>	
SICAT Implant	<a href="http://www.sicat.com/produkte/implantologie/sicat-implant.html">http://www.sicat.com/produkte/implantologie/sicat-implant.html</a>	
SimPlant	<a href="http://www.dentsplyimplants.de/Digitale-Lösungen/Entdecken-Sie-SIMPLANT">http://www.dentsplyimplants.de/Digitale-Lösungen/Entdecken-Sie-SIMPLANT</a>	
VoXim	<a href="http://www.ivs-technology.de/de/index.php">http://www.ivs-technology.de/de/index.php</a>	

The particular host or operator of the pages is always responsible for the contents of the linked pages.

### Ez3D-i - Allow import/export of STL files

Especially for working with Ez3D-i, this option can be selected to combine existing model data with the DVT to Ez3D-i. The selection of the model data takes place via an additional dialog, which is opened after a Double-click on a DVT is displayed. Ez3D-i inserts the model data into the DVT and displays it.

The new model data generated during the editing of this DVT are automatically returned to byzz nxt. is handed over. The model data in STL format are stored in the Model data view. New model data are is also automatically inserted here.

#### 6.10.4. Save screenshot in

If you take a screenshot in the 3D software (Ez3D and suchlike), you can select here where this is saved for a particular patient. You can either save the screenshot in x-ray, OPG, ceph, or in the camera view for the current patient.

## 6.11. Model data

You can modify all the default settings for the model data view for your local client. Clicking on “Apply” saves the settings.

### 6.11.1. Background

See chapter "Camera" => **Background**

### 6.11.2. Images (Thumbnails)

See chapter "Camera" => **Images (Thumbnails)**

### 6.11.3. Zoom Options

See chapter "Camera" => **Zoom Options**

## 6.12. pa-on

Here you can define the visibility of the individual index cards in the pa-on view. In this context, an activated box means that the index card is visible in the pa-on view.

## 6.13. History

You can modify all the default settings for the history view for your local client. Clicking on “Apply” saves the settings.

### 6.13.1. Background

See chapter "Camera" => **Background**

### 6.13.2. Images (Thumbnails)

See chapter "Camera" => **Images (Thumbnails)**

### 6.13.3. Zoom Options

See chapter "Camera" => **Zoom Options**

### 6.13.4. Display only the last

Here you can select the period of time for which the images from all modules are to be displayed. A number combined with the period days, months, or years can be selected.

### 6.13.5. Maximum number of images

You can define here how many images at most are to be displayed in the history view. If, for example, you have set 7 years as the period but only want to see a maximum of 30 images for the patient, you can set this limit here.

## 6.14. VDDS

### Which PMS should be informed on image changes

Here you can select which of the PMS entered in the list is to be informed about changes made to images. The list includes practice management systems (PMS) that have a VDDS import module available for image information and are registered in the local system (via VDDS\_MMI.ini in the Windows directory).

### Which PMS should be used to provide the patient number

Here you can define which registered PMS is responsible for displaying the patient numbers. If byzz is registered, the byzz internal numbers are always displayed. If another PMS is used, then the numbers are displayed as they are available in this PMS.

### Do not send CBCT datasets over VDDS

If patient images are requested, the transfer of CBCT datasets can be suppressed here. If the PMS does not clear these requested data from the temporary directory (which unfortunately is the case for some PMS), the hard drive fills up. With this option we suppress to send CBCT datasets from our side. These make up the biggest part of the data volume.

### Transfer colored images in X-ray, OPG and Ceph views as analysis result

With this option colored images are send as analysis results because in this area normally only black and white or gray-scale is defined.

### Send indication tooth only

If several teeth have been defined on one image, only the number of the indication tooth is sent. There are PVS that cannot handle multiple teeth.

### Always log in with the doctor transmitted via VDDS

If this option is active, the doctor who was transmitted via VDDS will always be logged in, which also ensures that the correct doctor is in the DICOM header of the recording.

## 6.15. Export

All the settings for the export dialog are defined here.

### 6.15.1. E-Mail Options

The following values depend on the email program used, the email hosting service, and the internet provider. The default settings in byzz nxt should therefore only be considered possible values.

#### Max. number attachable files

The maximum number of files that are permitted by the email program when sending an email (standard: 10 files).

#### Max. email size in MB

The total maximum size of the email including all attachments (standard: 10 MB).

Both settings can be reset to the original values using the “Default” button located next to each value.

### 6.15.2. Export file name Options

Here you can specify the file name of the exported recordings. There are already prefabricated patterns available for this purpose. You can also define your own pattern for your file names.

To enter your own pattern, select the pattern marked with the square from the prefabricated patterns. Then you can make adjustments according to your wishes in the " Custom Pattern " field.

## 6.16. Metadata / Findings

Here you can define key words that can be linked to the images (tagged). Images that include such a key word can therefore be located using the advanced search. It is possible to define your own key words as well as to import entire text lists.

In the export dialog you can allow the finding to be exported as well with the limitation that the finding can only be provided as IPTC data using JPEG, DICOM, or TIFF file formats.

### 6.16.1. General operating elements

Root nodes have a button behind their name to mark them as a list for the Justifying Indication. You can use any number of lists for the Justifying Indication.

#### Add new keyword list (symbol: green plus with one)

A new root node is added to the list.

#### Add new key word (symbol: green plus sign)

At the selected position a new key word is created.

#### Edit key word (symbol: pencil)

The selected key word can be edited.

#### Restore key word (symbol: green dot)

A previously deleted key word can be restored using this symbol. The symbol is only displayed if previous key words have been deleted and a deleted key word is marked. The option "Show disabled keywords" must be activated here.

#### Delete key word (symbol: red cross)

This symbol is used to switch key words to hidden or to definitively delete them. Depending on whether the option "Show disabled keywords" is activated, the key word is either no longer displayed (not activated) or is definitively deleted (activated).

#### Import Template List for Justifying Indications

A supplied example list for the justifying indications can be loaded here as a new list. This button is only visible if none of the existing lists is used for the Justifying Indication.

#### Expand all

All levels in the key word list are expanded.

#### Collapse all

All levels in the key word list are collapsed.

#### Show disabled keywords

Key words that have been "deleted" are still present in the database. With the correct authorizations, these key words can be restored. To do so, they must be made visible again using this option.

### 6.16.2. Import new text list

Clicking on "Import new text list" opens the import dialog.

#### Path

Definition of the path of the text list to be imported.

**Expand all**

All levels in the key word list are expanded for the import.

**Collapse all**

All levels in the key word list are collapsed for the import.

**Textlist encoding**

Specifies whether the test list has been coded in UTF7 or UTF8.

**OK**

Imports the text list.

**Cancel**

Cancels the import.

### 6.16.3. Import template list for Justifying Indication

Here you can import a supplied template list for the Justifying Indication once. Once one of the lists has been marked as an RI list, this button is no longer visible.

## 7. The byzz Control Center

The byzz Control Center (bCC) is a freely configurable view of all available patient data. You can configure the program in such a way (see **On patient opening**) that this view appears with every change of patient.

The bCC view can be interactively configured for the x-ray area, that is, you can see which teeth have x-ray images available using the status transferred from your PMS and also filter them using selection.

To configure the Control Center (setup view), move the mouse to the left pane of the view and click on the orange bar that appears.

Each main view can be locally activated in the bCC as a separate view (Camera, X-ray, OPG, Ceph, DVT, Model data, and Documentation). The latest image is always displayed as the topmost. Double clicking on the displayed image opens it and the size of the window that opens is determined by the working position saved in the relevant view.

### 7.1. Change size and position

In the setup view of the bCC, you can adjust the size and position of the available tiles to your needs. To change the size, move the mouse to the edge of the tile for which you want to adjust the size. By pressing the left mouse button, you can now enlarge or reduce the image.

The position is changed by clicking the left mouse button on the tile and moving the view to the required position while holding the button down.

When finished, click on “Save” to save your settings. The setup view is saved and closed.

### 7.2. Insert a tile

In the setup view of the bCC, you can see the tiles that are still available under the “Save” button. These inactive tiles can be set to the active area by double clicking on them. They can be enlarged and moved here.

### 7.3. Remove a tile

In the setup view of the bCC, an active tile can be removed by simply holding the mouse button on the tile and dragging it off the screen and dropping it. The removed tile now appears again in the list of inactive tiles.

### 7.4. Interactive tiles

Insert the tiles “Tooth schema” and “X-ray preview” in your active area of the bCC and save this setting. If the cursor is moved over a tooth on the tooth schema, the corresponding x-ray image is displayed in the “X-ray preview” view. If there is no image available for this tooth, a blank field is displayed in the “X-ray preview” tile. If there are several images available for this tooth, the most recent image is shown first. The mouse can be used to scroll through the other images. Double clicking on the image opens it.

### 7.5. Reset the bCC

You can reset the configuration to the standard values in the setup view of the bCC by clicking on “Reset”. This restores the original settings of the bCC as they were after the installation.

### 7.6. Summary of the tiles

Tile	Description
Bitewing 1	A compilation of teeth in the upper and lower jaw.
Bitewing 2	A compilation of teeth in the upper and lower jaw.
Bitewing 3	A compilation of teeth in the upper and lower jaw.

Bitewing 4	A compilation of teeth in the upper and lower jaw.
Document	Documents.
CBCT	CBCT images.
En face	Complete face.
Ceph	Cephalometric x-ray images.
Camera	Camera images.
X-ray	X-ray images.
X-ray preview	X-ray with preview (when moving the cursor over the corresponding tooth in the tooth schema).
Model data	Models.
Upper jaw	Entire upper jaw dentition.
UJ Incisor/Canine	Incisor and canines in the upper jaw.
OPG	OPG images.
Q1 Molars	Molars in the first quadrant.
Q1 Premolars	Premolars in the first quadrant.
Q2 Molars	Molars in the second quadrant.
Q2 Premolars	Premolars in the second quadrant.
Q3 Molars	Molars in the third quadrant.
Q3 Premolars	Premolars in the third quadrant.
Q4 Molars	Molars in the fourth quadrant.
Q4 Premolars	Premolars in the fourth quadrant.
Quadrant 1	Teeth in the first quadrant.
Quadrant 2	Teeth in the second quadrant.
Quadrant 3	Teeth in the third quadrant.
Quadrant 4	Teeth in the fourth quadrant.
Smile	Complete dentition with lips.
LJ Incisor/Canine	Incisor and canines in the lower jaw.
Lower jaw	Complete lower jaw dentition.
Tooth schema	Interactive tooth schema.
[Self-defined process elements]	Process elements configured by the user in the Control Center settings.

## 7.7. Save as Template

To be able to see this possibility, a user from the group of administrators must be logged in. You can set and save the appearance of the byzz Control Center as a template.

## 7.8. Use Template

An already created template can be used to customize the appearance of the byzz Control Center. The template must have been previously created and saved by a user from the group of administrators.



## 8. Image View

An image opened by double clicking in the x-ray, camera, OPG, and ceph views shows the image in the image view. The image view is essentially made up of five sections.

### Title bar

The title bar shows the name and number of the patient, the date on which the image was taken, the view where the image is located, and the image title.

### Toolbar

The toolbar can be modified separately for each view (that is, changes in the toolbar in the x-ray view do not appear in the toolbar for the camera view). By right clicking in the toolbar, the “Edit toolbar” dialog appears. Using the arrow keys (or by double clicking on the relevant symbol), the tools in the toolbar can be shown or hidden. By clicking on “Undo”, the standard settings for the toolbar are restored. Clicking on “OK” accepts the changes.

### Image area

The image is displayed in the image area. The image modification tools can be used here. Using the scroll wheel on the mouse, the user can zoom into or out of the image.

### Zoom Box

Moving the mouse over the image view reveals a four-arrow pointer symbol in the bottom right corner. Clicking on this symbol opens the Zoom Box into which the zoomed section can be moved. Clicking on the X in the top right corner of the Zoom Box closes it. In the general settings the user can set the option to immediately display the Zoom Box when an image is opened.

### Scroll bar

The scroll bar is only visible for images that are made up of several individual images (primarily DVTs). It allows the user to scroll through the individual images. If the mouse is over this area, the scroll bar can also be controlled using the scroll wheel on the mouse.


## 8.1. Image processing tools

There are a range of tools available to you to edit and assess images which can be seen in a toolbar on the upper edge of the image view.

Some image annotations allow to adjust background color, line color and thickness or even font color and size (depending on the annotation) by right-clicking on the annotation. The respective setting can also be set as the default setting for future annotations via a button in the respective dialog.


### 8.1.1. Undo

This tool has a special place because it is not actually an editing or assessment tool. It cannot be removed from the toolbar and is therefore always available.

	<p>Clicking on the symbol undoes the last image processing step. Clicking on the small arrow in the symbol opens a list of processing steps. You can undo several editing steps at the same time.</p>
---	---

All other image processing tools are listed below.

### 8.1.2. Save as new image

	<p>Clicking on the symbol saves the currently visible image section as a new image.</p>
---	---

### 8.1.3. Note



Draw a note at the desired point on your image and position your notes there.

### 8.1.4. Auto levels



Auto levels enables you to shift an image from too dark or too light to the middle of the gray scale.

### 8.1.5. Show image in second screen



The current image is shown in another window. This window can, for example, be displayed on a second monitor.

### 8.1.6. Print



This starts the print dialog where you have a range of options available.

### 8.1.7. Ellipse



Draw an ellipsis at the desired point on your image.

### 8.1.8. Despeckle



The despeckle tool eliminates any unwanted dots and marks from the image.

### 8.1.9. Strange colors



The screen display for the images in strange colors enables a rapid overview of the current dental status.

### 8.1.10. Color fill




Define fill areas with colors.

### 8.1.11. Histogram




Change the gamma and color values.


### 8.1.12. Frame Viewer

	This tool enables you to scroll through the layers in a multi-layer image in an area that can be moved with the mouse.
---	--


### 8.1.13. Free rotate

	You can freely rotate the image with the mouse. Clicking on the small arrow opens a dropdown menu where you can undo the rotation.
---	--


### 8.1.14. Freehand

	Draw a freehand line at the desired point on your image.
---	--


### 8.1.15. Gamma

	Change the gamma values of the image by holding down the mouse button.
---	--


### 8.1.16. Highlight

	While the tool is activated, you can view a rectangular area of the image around the mouse pointer with a higher contrast value while holding down the left mouse button.
---	---


### 8.1.17. Mirror horizontal

	Mirror the image horizontally.
---	--------------------------------

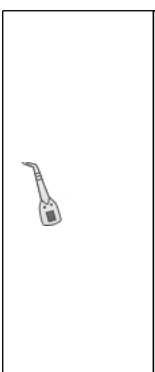
### 8.1.18. Add or change implant

	You can define implants from different manufacturers and of different sizes and then position them at the required location on your image.
---	--

### 8.1.19. Info


	Teeth can be marked for monitoring on images (these are linked with the finding in pa-on). A traffic light system for monitoring from green (no finding) to red (critical).
---	---

### 8.1.20. Bone degradation


	<p>Click on the symbol to open the bone removal dialogue and start the measurement:</p> <p>Click with the left mouse button at the desired location (apex) in the image and drag to the desired end point (enamel-cement boundary) while holding the mouse button down. After releasing the mouse button, you can record the bone loss by moving the centre line to the jawbone.</p> <p>Start and end point can also be adjusted subsequently at any time.</p>
---	--

	<p>In the dental chart, select the desired tooth and the side (mesial or distal). Teeth that have already been measured are highlighted in red and cannot be marked.</p> <p>Click on OK to end the measuring process, save the measurement and close the dialogue.</p> <p>Click on OK - Show PAR classification to end the measurement, save the measurement, close the dialogue and display the dialogue the <b>periodontitis classification</b>.</p>
--	--


### 8.1.21. Measurement

	<p>You can measure a distance on your image. Length specifications are given to the nearest mm and are visibly displayed on the measured distance. If neither a reference measurement nor millimeter specifications (height/width) are available in the image parameters, the value of the distance is given in pixels. You can use the Angle measurement tool to determine the angle between two measurements. The selected measurements are displayed as dashed lines.</p>
---	--


### 8.1.22. Negative

	<p>Inverts the colors of the image.</p>
--	---


### 8.1.23. Toggle annotations visibility

	<p>Switches all notes on or off.</p>
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### 8.1.24. PAR classification

	<p>Here you start the <b>periodontitis classification dialogue</b>.</p>
---	---


### 8.1.25. Arrow

	<p>Draw an arrow at the desired point on your image.</p>
---	--

### 8.1.26. Rectangle


	<p>Draw a rectangle at the desired point on your image.</p>
---	---

### 8.1.27. Reference measurement


	<p>You need an x-ray reference, usually a ball of 5 mm diameter, to calibrate your images. Zoom in on this ball on the image to define the reference. To do so, move the mouse pointer, while holding the right mouse button</p>
---	--

	<p>down, across the diameter of the ball and release the mouse button at the edge of the ball. Enter the size of the ball in the opened window.</p>
--	---


### 8.1.28. Relative density

	<p>Draw a profile line at the desired point on your image. You can determine the relative density using this profile line.</p>
---	--


### 8.1.29. Rotate

	<p>Rotate the image clockwise by 90 degrees. If the shift key is held down, the image is rotated counterclockwise.</p>
---	--


### 8.1.30. Sharpen

	<p>You can increase the contrast in the image here.</p>
---	---


### 8.1.31. Apply Default Filter

	<p>This applies saved standard filters to the current image.</p>
--	--


### 8.1.32. Mirror vertical

	<p>Mirror the image vertically.</p>
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### 8.1.33. Distortion compensation

	<p>Compensates for the distortion of a shot.</p>
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### 8.1.34. Blur

	<p>Contours and the contrast of the image are softened by using the blur function.</p>
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### 8.1.35. Angle measurement

	<p>Measure angles in the exposure. The angle between two measurements can also be recorded (see <b>Measurement</b>).</p>
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## 8.2. Multi-slice View

For images taken with a multi-slice device (e.g., a PaX-i HD+) or appropriately imported images (see **Import**), you can browse through the different layers of the image.

To do so, you can drag the slide control with the left mouse button or alternatively click on the arrow buttons (left/right). If the mouse is above the slide control, the scroll wheel can also be used to browse through the individual layers.

### 8.3. Frame Viewer

With the introduction of PaX-i INSIGHT also a new tool to enable navigation through all 41 layers of a multi-frame image was created. After activating the tool a framed area on the image can be moved with the mouse and the individual layers can be scrolled through with the mouse wheel inside this area. The size of the window can be adjusted using Ctrl+mouse wheel. Clicking with the left mouse button closes the tool.

In addition to the multi-frame images, the tool can also be used for multi-slice images.

## 9. The main menu

The main menu is located in the main window below the title bar and is made up of the five options: File, Edit, View, Extras, and Help. If an option in the menu is assigned a keyboard shortcut, this is displayed next to it. You can find a summary of the shortcuts in the Shortcuts chapter.

### 9.1. File

Here you can find all the essential options that concern the patient. General functions for the program are also available here.

#### 9.1.1. Open patient

This option opens the patient list so that an available patient can be selected (see also **Opening an existing patient**).

#### 9.1.2. Close patient

This function closes the currently opened patient. You can also click on the orangedental logo in the top right corner of the main window using the left mouse button to achieve the same result. The program switches to the patient list.

#### 9.1.3. Show patient basic data

Herewith the master data of the patient can be viewed but not changed.

#### 9.1.4. ibyzz export

You can start the manual ibyzz export here. The current patient is selected directly as the patient to be exported in the following dialog. By clicking on "Export" you start the export process.

#### 9.1.5. Copy selected elements

If you want to copy one or more images from the current view to another patient, select them and click on this menu option. The patient list is opened and you can choose the patient to which the elements are to be copied.

If no images are selected in the view, all images are copied to the selected patient. The menu option changes in this case from "Copy selected elements" to "Copy all elements".

#### 9.1.6. Move selected elements

If you do not want to copy the images but rather move them, select this menu option. The procedure is the same as for **Copy selected elements**. If images have ended up with the wrong patient, this is the function to use.

Again, if no images are selected in the view, all images are moved to the selected patient. The menu option changes in this case from "Move selected elements" to "Move all elements".

#### 9.1.7. Save working position

The position and size of an opened image are saved using this function depending on the current image view.

#### 9.1.8. Log in

You can log in here as another user on the workstation. If, for example, you want to edit your practice in practice management, you can log in on this workstation as the "Administrator" user.

The login dialog is shown in which you can log in as any assigned user of the selected practice.

### 9.1.9. Log out

You can log out the current user. byzz nxt afterwards is showing a dialog to log in again or quit the application.

### 9.1.10. Rights of the logged in user

Allows you to view the rights of the logged-in user.

### 9.1.11. Quit

With this function you quit the program. In exceptional cases, e.g., if data is being burned to a CD, this command is canceled.

## 9.2. Edit

The options for managing images are available here. This includes the visibility of the images in the view.

### 9.2.1. Import

Depending on the view, different data types are displayed in the import dialog. For example, no STL data are displayed for import in the camera view. In contrast, only STL data are displayed for import in the model data view. On the left side (Explorer view), you can navigate to the location of the data you would like to import. In the middle area, all data are displayed that can be imported into the current view. On the right the image and recording parameters for the selected image can be set.

If there are several files in the import directory / drive, you can select the required files using the mouse and then import them into the current view by clicking on "Import". If you want to import all files, then click on "Select all" and then on "Import".

Using the slide control that is located next to the import button, the size of the thumbnails can be enlarged or reduced. There are also two other options available:

#### **Use selected files as layers for a multi-layer image**

If this option is activated, during import all selected images are linked as layers into a multi-layer image. This is displayed when opening in the multi-slice view (see **Multi-slice View**).

#### **Create external copy when importing**

If this option is activated, during import an additional copy is created in a directory. This additional copy can be processed with another program. If the option is activated, the directory where the external copy is to be saved can be selected using the "Path" button that is displayed.

### 9.2.2. Import (VDDS)

This opens the VDDS import dialog. You can see all the image processing systems (IPS) that are registered on the VDDS interface.

Select the required program from which you would like to import data and confirm your selection using the "Transfer" button. The external program is now opened and all the data related to this patient are imported.

### 9.2.3. Import (dental camera)

This function is used to import images from the dentaleyepad.

### 9.2.4. Import (Live)

The live import function simplifies the importing of digital photographs in byzz nxt. All information that is attached to the original images (EXIF and the like) is kept in this process. The basic settings can be found under **Live Import**.



When the window is opened, all images that can be imported are displayed from the live import directory, or as new images are added, these are also displayed. How these images are placed in the directory is irrelevant for this process.

One possible application may be that a wireless intraoral camera saves images in a directory defined when the camera software is installed. If this directory is defined in the settings as a live import directory, every image created appears immediately in the import window.

If you would like to include additional information such as tooth information, key words, and so on, you can specify this in the image parameters (top right). By clicking on the import button, the selected images are imported and, depending on the setting, deleted afterward from the transfer directory.

#### 9.2.5. Import (One Shot)

If you have used the OneShot program in the past and would like to import the data that has accrued into byzz nxt, you can configure and start this process here. Please contact the distributor from whom you purchased the OneShot program if you have more complex questions.

#### 9.2.6. Export (save to media, burn or send by email)

You can export selected data using this function. To do so, switch to the view from which you would like to export data and select one or more files. Open the export dialog where you have the choice of three types of export. You can either export the file(s) to a computer, burn to a writable medium, or send by email.

After selecting the export type, you can define other export and display options and start the export process by clicking on “OK”.

#### 9.2.7. Print

You can print the images using this function. For video, STL, or CBCT data, the thumbnails are included as printable content.

#### 9.2.8. DICOM Print

If a DICOM printer is available, printing can be started with this function.

#### 9.2.9. Delete

If you would like to delete an object or image, select the object(s) and press the Del key or click on “Remove from current view” in the menu. For x-ray images a password is required to delete images and for non-x-ray images a security prompt appears.

The images are not physically deleted but are instead moved to a separate folder (with corresponding substructure) in the data directory.

If you would also like to protect non-x-ray images with the password request, this can be switched on with administrator rights under Extras => Settings => Admin.

#### 9.2.10. Copy element into the clipboard

With this function you can copy one or more files to the clipboard. The contents of the clipboard can then be transferred to another view or even to another program.

#### 9.2.11. Paste element from the clipboard

You can use this function to paste all data from the clipboard to the program. This can be any type of data. The data are not directly pasted into the view but instead displayed first in the import dialog. If the data cannot be pasted into the current view, nothing is displayed in the import dialog.

### 9.2.12. Record images...

With this menu option you activate the associated pre-configured system. If, for example, the x-ray view is active, the x-ray system is initiated and started.

Using the small arrow on the right next to the record symbol on the toolbar, you can also initiate and start another or an alternative device.

### 9.2.13. Record Orders

Opens the dialog in which the incoming recording jobs are listed (see **Receive Record Order**).

### 9.2.14. Create Record Order

Opens the dialog in which new recording orders can be created (see **Send Record Order**).

### 9.2.15. Select all

With this function you can mark all the elements that are present in the current view.

### 9.2.16. Hide selected elements

To improve the overview for long-standing patients, for example, you can hide elements. Firstly, select the elements and then choose the menu option “Hide selected element” so that these elements are changed to invisible.

### 9.2.17. Hide unselected elements

If you want to hide a large number of displayed elements, it can be helpful to mark those few that you want to have displayed. All those elements that have been marked remain visible with this function. All other elements are hidden.

### 9.2.18. Show hidden elements

Makes all hidden data visible again for the active view.

### 9.2.19. Manage visible images

In this window you can individually assign the visibility of individual data. If the box below the image is activated, the image is visible in the view; it is otherwise hidden. You can optionally define the visibility individually using the mouse, display data from a date of your choice onward, or by clicking on “Show all” or “Hide all” you can change the visibility of all data at once. By clicking on “OK” all settings related to the visibility are accepted for the view.

## 9.3. View

Here you find all the options that can be set for the individual views.

### 9.3.1. Toolbars

You can manage the visibility of the bars in the main window of byzz nxt here.

#### **Mainmenu bar**

Switches the menu bar on or off.

#### **Toolbar**

Switches the toolbar on or off.

#### **Navigation bar**

Switches the navigation bar on the left side on or off.

### 9.3.2. Reload view

Reloads the current view. Images newly inserted in the same view on other workstations can be displayed using this function without having to change view.

### 9.3.3. Control Center

In the byzz Control Center (bCC) you can display all the digital findings for a patient in a single view depending on the configuration. You can customize this view. More information about bCC is available at [The byzz Control Center](#).

### 9.3.4. Camera

In this view images from intraoral/digital cameras, microscopes with image output, and other optical image options are saved and displayed.

### 9.3.5. X-ray

In this view images taken with x-ray sensors or scanned with scanners are displayed sorted by quadrant and tooth number.

### 9.3.6. OPG

Both single and multi-layer diagnostic x-ray images of the upper and lower jaws of a patient are saved and displayed in this view.

### 9.3.7. Ceph

All cephalometric x-ray images for a patient are saved and displayed here.

### 9.3.8. CBCT

In this view all digital volume tomography images are saved and displayed.

### 9.3.9. Model data

All model datasets for the patient are displayed and saved here. The model datasets can then be processed in other CAD/CAM systems. The internal viewer can display the datasets up to a certain degree of complexity.

### 9.3.10. Documents

All other data about a patient can be saved hierarchically here. The folder structure can be defined by the user and changed at any point. Scanned documents can be saved here as well as data that can be processed with external programs.

The documentation is independent of file types and all types of files are accepted.

### 9.3.11. pa-on

This view helps you with visualizing periodontal measurements (taken electronically or manually) and the subsequent consultation and treatment.

### 9.3.12. Serials

You can start the view or recording option for the series. The series display enables you to define other individual views outside the bCC.

### 9.3.13. Custom views

You have the option here of putting together your own view using data from the different views. For example, you can combine the images (OPG, camera images, x-rays, etc.) required for treatment/therapy into one custom view.

To do so, move to the source view, e.g., camera, and drag the required images with the left mouse button to the “Custom views” button. This creates a custom view with the current date and time. Repeat this process for all images/elements that you would like to see for this case on a single page by dragging the images directly to your custom view.

### 9.3.14. dentflows

All open and closed dentflows are displayed in this view.

### 9.3.15. History

Lists all images/files historically. Under "Extras => Settings => History" you can define the time span that should be displayed and also specify the maximum number of images/files.

### 9.3.16. Search

Using the search function you can initiate a request about all of the images/data available for the current patient. You can select the following criteria:

- Appointment data /visit.
- Image type (OPG, video, etc.).
- Tooth number.

By clicking on “Advanced search”, you can define other search parameters.

You can assign a name to the newly generated view for ease of identification. If you do not assign a name, a name is automatically generated using the date and time.

After you have started a search, you will find your view with the results under a new entry that is listed under “Search”.

### 9.3.17. Save view

By clicking on this menu option, you can save the current arrangement of the elements in the current view.

### 9.3.18. Restore view

By clicking on this menu option, you can restore a saved arrangement of the elements that you have created using the “Save view” function.

### 9.3.19. Save view as custom view

After you have moved the images/data to the required position, you can save the view by clicking on this menu option as a custom view under the “Custom view” button. This is an alternative way to permanently save a view modified to your requirements.

### 9.3.20. Order

Clicking on this menu option allows you to organize all the data for the view in accordance with the defined criteria. For example, in the x-ray view the images are sorted corresponding to tooth position. If several images are available for one tooth, the images are layered in a stack on top of each other and sorted ascending or descending by date depending on the setting.

### 9.3.21. Sort

You can define the criteria for sorting the elements in a view here.

#### Ascending

Images are sorted ascending by date.

#### Descending

Images are sorted descending by date.

### 9.3.22. View thumb zoom

You can activate the zoom function here or by pressing the middle mouse button (scroll wheel). You activate a zoom function (power zoom) with which you can move over the thumbnails and these are displayed enlarged. You can change the magnification factor using the scroll wheel.

If the zoom is already activated, you can enlarge and reduce the zoom window by pressing the left mouse button and moving the mouse to the right and left.

### 9.3.23. Show original and modified image

If this function is activated, the original version is shown in addition to the working version for the next image you open. The comparison between the original and the working version is intended to prevent false results. In the upper symbol bar, this function is also available as a separate symbol.

### 9.3.24. Compare images

This will launch all selected images side by side in their own image views. You can use all image editing tools. When one of the recordings is closed, all other recordings are also closed.

### 9.3.25. Image overlay

To start the image overlay you have to select exactly two different images and then click on the menu item.

**Note:** The overlay window does not currently offer any image editing options.

The two images are displayed at the left margin for easier selection. The two images are overlaid in the middle and the overlay can be controlled by a slider on the right edge of the window. On the left side you can select one of the pictures. The selected image can be moved with pressed left mouse button and zoomed with the mouse wheel. A double click with the left mouse button resets the position. A double click with the right mouse button resets the zoom.

### 9.3.26. Light box

You can switch the entire screen to white in order to be able to examine any analog images on the screen. Pressing the ESC button or clicking a mouse button quits this function.

**Note:** If several possible screens are found, this menu item contains the selectable screens as sub-items.

### 9.3.27. Testpicture 1

With this function you can access a test image to check your monitor. The test image includes different gray scales, various lines, and black and white elements.

The image can optionally be displayed in the program window or on the screen in full screen mode and also inverted if required.

**Note:** If several possible screens are found, these menu items contain the selectable screens as sub-items.

### 9.3.28. Testpicture 2

With this function you can access a second test image to check your monitor. This test image includes four triangles with a circular transition from black to white and reversed.

The image can optionally be displayed in the program window or on the screen in full screen mode and also inverted if required.

**Note:** If several possible screens are found, these menu items contain the selectable screens as sub-items.

### 9.3.29. Show on second screen

Using this function you can open a second window for another monitor in which all the actions of the first monitor are reflected. This can be used to display images on the monitor that is integrated in a dental chair system or attached to a wall.

### 9.3.30. Show thumbnail info tooltip

Switches the information window for the thumbnails on and off (appears when moving the mouse over a thumbnail).

### 9.3.31. Show thumbnail creation date and time

Displays the creation date and time on each thumbnail, centered at the bottom.

### 9.3.32. Image properties

This function is used to open the image parameters for a selected image. Depending on the type of image, additional recording parameters are also shown.

### 9.3.33. DICOM properties

If a DICOM recording is selected, the information is read from the header of the DICOM file and displayed.

## 9.4. Extras

Additional functions and settings for the program and the devices are located here.

### 9.4.1. Patient statistics

In this window you will find statistical analyses about what type of images/files were added to which patients over a defined period of time. You can define the period of time yourself or select predefined time periods by clicking on "Quick selection". By clicking on "Print", you can print out the current statistics for your documentation.

### 9.4.2. Catalog

Under this function you have the option of compiling a consulting catalog in accordance with your requirements. In the catalog you can, for example, combine images from different patients and views to create a complete therapy plan and use this plan to explain the upcoming procedure to a patient.

### 9.4.3. X-ray control book

In the x-ray control book you can find all the relevant data for each x-ray image that is stored in the program. This includes the date of the recording, patient name, sensor, source, and the x-ray parameters.

You have the option of limiting the images displayed using a range of selections so that only that information is displayed that you are currently interested in.

### Patients

- All.
- A particular patient.

### Sensor type

Only the defined sensor types are displayed.

- X-ray.
- OPG / ceph.
- CBCT.

### Time period

- All (that is, all x-ray images are listed).
- Selection (defined time period).

By clicking on “Quick selection”, you can set predefined time periods.

### X-ray equipment

The different defined x-ray equipment can be selected.

By clicking on “Print” your selection (e.g., week, month, quarter report) is printed for your records.

#### 9.4.4. Image sidebar

The image sidebar offers the ability to transfer available images to other programs (e.g., Word, PowerPoint) without having to use the main window. If no thumbnail is marked, all images in the sidebar are displayed; otherwise, only the selected images are displayed.

As soon as you activate the image sidebar function, the main window is hidden and you will only be able to see the image sidebar. If you would like to return, simply close the image sidebar window by clicking on the X in the top right corner. The image sidebar disappears and the main window is then visible again.

**Note:** This menu item is only active if you are in a picture view.

#### 9.4.5. Form Manager

The Form Manager manages server-side dropped files so that they are available as templates on all clients. Clients that request a file always receive a copy of it, so that the originally stored files remain untouched.

The + on the upper right side opens a file selection dialog where you can select the desired file and save it on the server. Added files are displayed in a simple list sorted alphabetically by name. Administrators and physicians can also delete entries using the x on the right-hand side. Copies already stored with patients remain untouched by this.

Via "Save document on this computer" a copy of the selected file can be saved via a save dialog.

If a patient is open, "Add document to patient and open for editing" copies a copy of the selected file to the Documents module (to the top level) and, if possible, opens it for editing.

#### 9.4.6. Periodontitis classification

This dialogue serves to support a periodontal therapy according to the PAR guideline of July 01, 2021 and can be used in three ways:

1. Patient- and image-independent → open the dialogue when the patient is not loaded.  
Values are not preset and can be set completely freely.  
Clicking OK does not save and closes the dialogue.

2. Patient-related and image-independent → open dialogue with loaded patient

If a classification is not already available, the following values are determined from the PA data (if available):

- Age (cannot be changed)
- Interdental CAL
- Probing depth
- Smoking

Clicking OK does not save and closes the dialogue.

3. Patient- and image-dependent →open the dialogue with a loaded patient not from the menu, but via the context menu if exactly one image is selected - or via the context menu of the image view or from the **bone degradation dialogue**.

As with 2, but if the corresponding measurements are available, the X-ray bone resorption is also determined. Click OK to save the classification for this image and close the dialogue.

In all cases, the classification can be printed directly from this dialogue.

Note: PAR classifications that are printed in the document view (only when the patient is loaded) are stored under the global sub-node PAR classification and can only be deleted by an administrator.

Translated with [www.DeepL.com/Translator](http://www.DeepL.com/Translator) (free version)

### 9.4.7. Settings

All settings for the program are defined here. You can find a detailed description under **Settings**.

### 9.4.8. Device settings

All devices that are used to take on the local PC can be configured here. Please ensure that the installation and possible changes are made only by specialist personnel or by your x-ray technician because invalid or incorrect information can lead to malfunctions.

## 9.5. Help

Here you can find not only the help function but also the remote maintenance, licensing, and information about the program.

### 9.5.1. Help

Clicking on this menu option or the function key F1 or using the shortcut Ctrl+H opens the help context from the current operating manual.

### 9.5.2. Manual

Opens the PDF version of the user manual.

### 9.5.3. What's new?

Opens the current update information PDF that documents the changes between the different versions.

### 9.5.4. Protocols

Here you can call up the approval reports for x-ray machines.

### 9.5.5. Licensing

This menu option is used to carry out the general licensing of the software. If you have not yet licensed byzz nxt or would like to change or modify the license, please contact the orangedental hotline on +49 (0)7351 474 99-20. If you would like to contact us outside business hours, please send an email with your request to [support@orangedental.de](mailto:support@orangedental.de).



We can provide optimal support for your workplace if you have internet access. The hotline employees can connect to your PC using TeamViewer and carry out the licensing for you. You can learn how to start TeamViewer under the option **Remote maintenance**.

#### 9.5.6. Activation

Here starts the activation of byzz nxt. Please enter your license data and the activation code and confirm your entry with "Activate". byzz nxt carries out the online activation over the Internet.

#### 9.5.7. Remote maintenance

Clicking on this menu option, double clicking on the link "Remote maintenance orangedental" on the desktop, or clicking on the button "Remote maintenance orangedental" in the service area on our home page (<http://www.orangedental.de>) starts the TeamViewer remote maintenance program for safe communication between you and the hotline.

**Attention!** Please carefully read the info window that is displayed because this connection may be subject to costs under some circumstances.

#### 9.5.8. Info about...

Shows basic information about the program such as the version number (top right) and related topics in a list.

## 10. Shortcuts

Shortcut	Description
F1	Opens help
F4	Image properties
F5	Reloads the views
F6	Opens the byzz Control Center
F7	Opens the camera module
F8	Opens the X-ray module
F9	Opens the OPG module
F10	Opens the ceph module
F11	Opens the CBCT module
F12	Opens the model data module
Strg + 1	Shows/hides the menu bar
Strg + 2	Shows/hides the toolbar
Strg + 3	Shows/hides the navigation bar
Strg + 4	Shows the thumbnail info tooltip
Strg + A	Selects all
Strg + B	Image sidebar
Strg + C	Copies selected elements
Strg + D	Opens the device settings
Strg + E	Opens the export dialog
Strg + H	Opens help
Strg + I	Opens the import dialog
Strg + K	Opens the image catalog
Strg + L	Live import (byzz wireless)
Strg + M	Manual
Strg + N	What's new
Strg + O	Opens the settings
Strg + P	Opens the print dialog
Strg + R	Starts the remote maintenance
Strg + S	Opens the add series function
Strg + T	Opens a patient
Strg + V	Inserts an object/element
Strg + X	X-ray control book
Strg + Y	Activates recording
Strg + Alt + 2	Show on the second screen
Strg + Alt + F6	Opens the documents module
Strg + Alt + F7	Opens the pa-on module
Strg + Alt + F8	Opens the history module
Strg + Alt + F9	Opens the search module
Strg + Alt + C	Copies all/selected elements to another patient
Strg + Alt + E	ibzz export
Strg + Alt + I	Import (VDDS)
Strg + Alt + M	Moves all/selected elements to another patient
Strg + Alt + O	OneShot import
Strg + Alt + P	Patient statistics
Strg + Alt + S	Saves working position
Strg + Alt + T	Closes patient
Strg + Alt + V	Manages visible images
Strg + Shift + A	Sorts ascending
Strg + Shift + D	Sorts descending
Strg + Shift + O	Order
Shift + Alt + L	Log off the current user

Shortcut	Description
Entf	Removes from the current view / deletes
Alt + L	Logs user out and logs another user in
Alt + F4	Quits the program

## 11. Parameter module pa-on

Using the byzz nxt pa-on module together with your practice management software and the electronic measurement probe pa-on, you can record the perimetric values of your patients, advise them, and develop treatment plans.

The pa-on module requires a separate license and may have limited functionality if you have not purchased the module.

### 11.1. Dental Examination



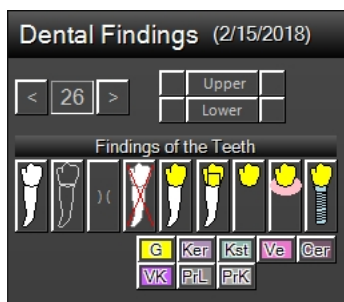
In this category you see the comprehensive dental exam with charting of the current patient. The heading shows the patient's name.

Besides the patient data, many dental practice management programs offer the possibility to export the examination result of the patient to byzzParo. If you use the Parameter without or independent of an accounting program, you may edit the findings of your dental examination in this window. Please note that it is not possible to import the restorative findings to your accounting program.

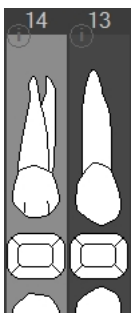
#### 11.1.1. Input and modification of dental exam findings



You add new examination results plus the current date to the list of findings with "New".



Then you can insert the findings using the buttons on the right.



Choose a tooth in the dental notation by clicking it. The tooth will be highlighted.



Tip: You can also select a tooth by using the arrow keys or the space bar.



A click on the corresponding button highlights the upper or lower jaw or selects one of the quadrants. For example, click on the upper left box to highlight the first quadrant.

#### 11.1.2. Examination results

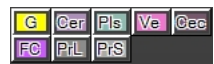


If one or several teeth are selected, you can enter the findings by clicking on the respective symbols or keying in the shortcuts. When you move your mouse over a symbol you get more information. To undo any entry, click on the symbol on the left. A click on "missing tooth" (second symbol from the left) and then on "no disease" also sets the tooth to its initial state.

The symbols (with shortcuts):

NAD (no disease)	(ESC)
missing tooth	(x)
missing tooth closure	(9)
extraction	(shift + x)
crown	(c)
telescope crown	(t)
bridge	(b)
prosthesis	(p)
implant	(i)

**11.1.3. Material**



You can choose the material before or after the examination. It is possible to change a golden crown to a ceramic crown and vice versa. Using the keyboard, you key in "g" and then "c" to get a golden crown. Some materials must be set by mouse-click.

Use the following shortcuts:

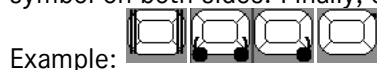
Gold	(g)
Ceramic	(e)
Plastic	(s)
Veneer	
Cerec	
Full Ceramic	
Long-term Provisional	
Short-term Provisional	

**11.1.4. Further findings**

Additionally, there are several more findings you can add to your dental notation, for example attachment, ligament, root rotation or tooth contact. When moving the mouse over a symbol you see the explanation.



Enter attachment, brackets and blocking by clicking on the respective buttons. After the first click the symbol is inserted on the left of the tooth. Click again to move the symbol to the right. A third click adds the symbol on both sides. Finally, click again to remove the symbol.




By means of these buttons you add a ligament or a splint. A second click removes the symbol.




Click on this button to add an orthodontic band. A second click removes the symbol.




You may add braces by clicking this button: first click – front part of tooth, second click – lingual part, third click – both, fourth click – no braces at all.


Example: 


 To add a symbol for vitality just click the buttons "+" or "-", or in case of indeterminate vitality click "?". The symbols are shown to the left of the root in the dental notation. In case of percussion click on "P" to insert "P" to the right side of the root. A second click removes the entry.


Shortcuts vitality:


- vitality + ... (+)
- vitality - ... (-)
- vitality ? ... (?)


 If there is a tooth fracture you can add the symbol via this button. A repeated click sets the degree of the fracture (1 to 3). A fourth click removes the symbol.

Example: Fractures degree 1 and 3 


 Add an abrasion or a defect by clicking the respective button. A further click removes the symbol.


Example: 


 Add the cutting of a tooth by clicking this button. A repeated click sets the degree of the cutting (1 to 3). A further click removes the symbol.


 If you want to indicate a high or low position of a tooth or a tooth angulation you can add an arrow. The first click displays the arrow in grey, meaning a slight dislocation, a second click displays it in black for a severe dislocation. The next click reverses the direction. Click again to remove the arrow.


Example: 


 If there is a shifted tooth, you can add this information by clicking this button. The tooth will be marked with a V and displayed grey. A further click removes the symbol.

 To visualize a contact, click this button. Click repeatedly to insert the symbol (seven possibilities): first click indicates contact on the left then center then right then left+middle then left+right then center+right and finally left+center+right.

Example: 

 A complete fissure sealant is shown by a black symbol. If it is defective click the button again to change the color to blue or red. A fourth click removes the symbol.


Example: 

 You may change permanent teeth to deciduous teeth. Highlight a tooth and click this button. A second click changes to permanent tooth.

### 11.1.5. Caries

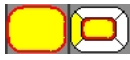


Tooth decay can be added by mouse or by shortcuts. Highlight the tooth and then choose the caries class which is shown in different shades of red: the more caries the darker red. Now click the position of the cavity in the icon. To remove the entry just click once again.

Example: 

Shortcuts:

Key the caries classification (1 to 5) and then the shortcut for the position. For example enter "3" and "shift + d" to get distal caries class 3.




To add marginal caries, enter "shift + o" if a tooth has a restoration or a crown set already. Marginal caries is shown as red circle – independent from caries class.

11.1.6. Restoration



To enter fillings, highlight the tooth, select the material and then click the position of the filling in the icon. Click once again to remove the filling.

Example: 

When using the keys you type in the material and then the position: for example a buccal plastic filling is added by keying in "s" and then "shift + b".

11.1.7. Root treatment

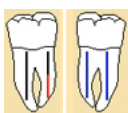
There are several symbols to add root findings. Highlight the tooth and then click on the respective button.



For multirooted teeth, the findings are entered from root to root. To do so, click repeatedly on the button with the root finding.



To add a root filling or an endodontic post, select the tooth and click on the button. If the root filling is insufficient you first add a root filling and then click the button to show the tip in red. The next button inserts a temporary root filling in blue.



Example:



A root cap and a root tip resection can be set by clicking with the mouse on the respective button. Clicking on the symbol again removes the cap and then the finding. A hemi-section is indicated using mouse clicks to remove root by root.



Example:



You can add an apical lesion or a cyst with these buttons. A second click removes the apical lesion or cyst. In this cases and for fractures of multi-root teeth click to move to the next root. A further click removes the symbol.

Apical changes are entered for each tooth.

Example: 

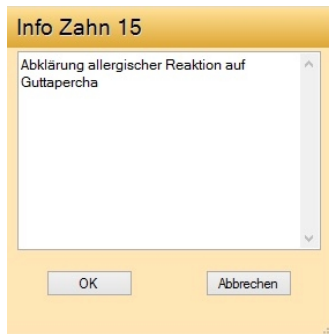
### 11.1.8. Tooth information



You can add information for each tooth. To do so, click in the small “i” next to the tooth number.



Now enter the required text and then click on “OK”.



You can always access the text by clicking on the blue “i” even in the periodontal and plaque odontograms.

### 11.1.9. Display upper / lower jaw



By clicking on this button, the upper and lower jaw are displayed. This is the basic setting.



By clicking on this button, only the upper jaw will be shown. The display will be enlarged and therefore the legibility.



By clicking on this button, only the lower jaw will be displayed.

### 11.1.10. Clipboard



You can transfer the finding as an image to the clipboard. By clicking on this button, the current finding is saved to the clipboard.

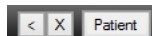
### 11.1.11. Patient letter



Clicking on this button opens a window to select a text template or boilerplate text. Depending on the template, the relevant data and images are inserted directly into the letter. For more information, please read the chapter about text templates and boilerplate text in the pa-on chm help file.

### 11.1.12. Window size





Because the assessment in the periodontal area can be exhaustive, you can hide the list area on the left using the button to improve the readability. This increases the space available for the finding. The odontogram automatically adjusts to the new size.



By clicking on the “<” button the list is displayed in a narrower format. The window with the findings becomes larger.



The “>” button resets the list to the original width.

### 11.1.13. Save, print, delete, export of examination results

Whenever you make a change to the finding, the “Delete” button vanishes and the “Save” button appears instead.



Save the finding using this button. A new finding is automatically displayed with the identifier “01” in the list of findings.



Using the “Print” button, you can print out the current initial examination. The comments that you have saved are also printed out.



Findings that are no longer required can be deleted using the “Delete” button. Note that a deleted finding cannot be restored.



Using the “Export” button, you can export the current examination as an CSV file.

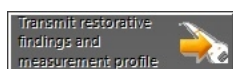
### 11.1.14. Measuring profile

The number of measuring points and the way to measure are defined in the measuring profiles. Choose one of the profiles from the pop-up menu.



See Measurement profile in the Configuration chapter on how to add new profiles or alter existing ones. You can create as many profiles as you need and then choose one out of the pop up menu before measuring.

### 11.1.15. Transfer data



You can use the Parameter without any predefinitions. But if there are any missing teeth it is easier to transfer the dental findings to the probe before measuring. Thus you do not have to skip missing teeth during measurement. Missing teeth are removed from the dental notation as described above.

## 11.2. Periodontal Findings

After the successful transfer the dental notation shows all periodontal findings. Pocket depths and recession are displayed graphically. The pocket depth values are shown in the measuring points and likewise graphically as "pockets" in the dental notation. Bleeding points are displayed as red-coloured pocket depths points. The values

for mobility degree are shown in the center of the teeth as roman numerals. The dental notation displays the furcation as a purple circle in the upper root area.

### 11.2.1. Entering periodontal findings



By using the Parameter, you do not need to enter the periodontal findings manually. But it is still possible to add some or change the findings, if you wish to. The plaque index SBI has to be entered manually.



To create a new periodontal chart, click on the “New” button. If you have not yet entered a finding on the current day, a new row is added to the list when you click on the “New” button. If, however, you have already prepared an initial examination, for example, the new periodontal examination is allocated to this initial examination. The new finding is then located under the current date with the name “...01 PA”.

|22.04.2011 01 PA

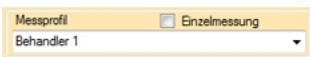
Before entering, select the examined tooth and the measurement point in the odontogram. The tooth can be selected by clicking with the mouse or by making an entry on the right in the window.



For findings related to the entire dentition, the teeth and measurement points are marked in the sequence defined by you (see “Configuration”). For the entry, measurement points can be omitted by pressing the Enter key “Return”).

### 11.2.2. Measuring profile

Even if you have not carried out a measurement, select a measurement profile to determine the number of measurement points in the odontogram.



### 11.2.3. Pocket Depth

You can enter values specifically for a single tooth. To do so, click on the tooth. The first measurement point is marked. Depending on which measurement profile you have selected, up to six measurement points are displayed. Click on another measurement point in the odontogram if necessary or even on the tooth symbol.



Values are entered using the keyboard or the scroll wheel of the mouse. Values entered using the mouse are increased or decreased in 0.5 mm increments or directly by clicking on the button with the corresponding value. Values entered using the keyboard are confirmed by pressing the Enter key.

After entering the measurement value, the next measurement point is then automatically selected. The measurement sequence and the number of measurement points are determined using the measurement profile which was defined under “Config”.

The values are not only displayed in the measurement points around the root but also as “Pocket” in the odontogram. The values are either rounded up or displayed with one digit after the decimal point depending on your specifications in the configuration.

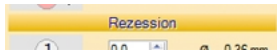


### 11.2.4. Recession

Any recession is entered in the same way as pocket depths are entered using the symbol on the right side.



Please note that the recessions are only displayed if you have checked the relevant option in the “Config”. You can switch between recession and attachment loss by clicking on the corresponding header on the right side.



### 11.2.5. Attachment loss

You can switch between recession and attachment loss by clicking on the “Recession” header. You will then see the attachment loss instead of the recession on the odontogram.



The values are only displayed if the corresponding option has been checked under “Config”.

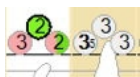
### 11.2.6. Bleeding on probing

The BOP can be entered using the keyboard (“+” or “-”), the scroll wheel of the mouse, or by clicking the mouse in the symbols. Alternatively, the BOP can be directly inserted on the measurement point in the odontogram using the right mouse button.

Pus and BOP with pus can only be inserted using the buttons.

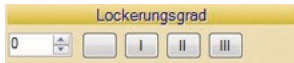


In the odontogram the BOP is displayed in red along with the pocket depths. Pus is shown in green.



### 11.2.7. Mobility degree

You can enter mobile teeth using the keyboard or mouse click.



Values are displayed in the center of the tooth as Roman numerals.

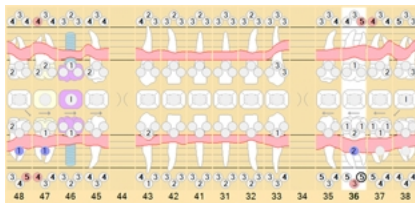
### 11.2.8. Furcation

For the affected teeth, you can enter furcation.



To do so, mark the tooth and then click on the button “0” to “3” to define the degree of furcation. In the odontogram this is shown as a purple circle with the number 1 to 3 in the upper root area.

### 11.2.9. Tooth schema



The tooth schema displays all the measurements. The pocket depths and the recession are also displayed graphically in the chart.

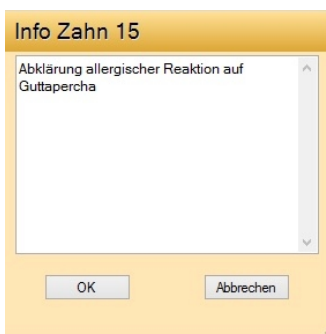
### 11.2.10. Tooth information



You can add information for each tooth. To do so, click in the small “i” next to the tooth number.



Now enter the desired text and then click on “OK”.



You can always access the text by clicking on the blue “i” even in the periodontal and plaque tooth schema.

### 11.2.11. Save

Whenever you make a change to the finding, the “Delete” button vanishes and the “Save” button appears instead.



After clicking on Save, the new finding is located under the current date with the name "...PA" in the list of findings. If there is already a finding with this date, the name is expanded with the addition of PA, e.g., "... 01 PA".

### 11.2.12. Comparison

The list of the comparative findings includes all previous periodontal findings. The list shows the degree of pocket depths, the recessions the attachment losses and the BOPs as percentage.

Vergleich				
Datum	TT	RZ	AT	BOP
03.11.2011	2,93	0,36	3,29	4%
02.05.2011	3,15	0,38	3,54	13%
22.04.2011	3,44	0,39	3,83	22%

When clicking on an earlier finding, the odontogram shows the change relative to the current finding.

The change in the measurements is shown as follows:

PA (graphic display)

- blue: the comparison finding
- red: the current finding
- red bar: deterioration
- green bar: improvement

BOP (display of the points)

- white: still no bleeding
- light blue: no longer bleeding or pus no longer present
- light red: bleeding still present
- dark red: new bleeding
- green: pus still present
- dark green: new pus



### 11.2.13. Display upper / lower jaw



Using this button, you can view the entire periodontal chart. An upper and lower jaw are shown. This is the default view at the start of the program.



Using this button, you can view the periodontal chart for the upper jaw only. This may enlarge the display in many cases and therefore increase the readability.



Using this button, you can view the periodontal chart for the lower jaw only.

### 11.2.14. Clipboard



You can transfer the finding as an image to the clipboard. By clicking on this button, the current finding is saved

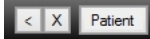
to the clipboard.

### 11.2.15. Patient letter



Clicking on this button opens a window to select a text template or boilerplate text. Depending on the template, the relevant data and images are inserted directly into the letter. For more information, please read the help about text templates and boilerplate text.

### 11.2.16. Window size



Because the assessment in the periodontal area can be exhaustive, you can hide the list area on the left using the button to improve the readability. This increases the space available for the finding. The odontogram automatically adjusts to the new size.



By clicking on the “<” button the list is displayed in a narrower format. The window with the findings becomes larger.



The “>” button resets the list to the original width.

### 11.2.17. Export



The measurements for all findings can be saved in a file so that they are available for other programs. Click on the “Export” button and then enter the file name under which the file is to be saved.

Note that all findings (periodontal, plaque, API, PBI) are always exported, regardless of which finding you currently have open.

If you hold the shift key down while clicking on the “Export” button, Excel is activated and the finding is transferred directly to Excel.

### 11.2.18. Print



Using the “Print” button, you can print out the current odontogram. The comments that you have saved with the findings are also printed out.

### 11.2.19. Delete



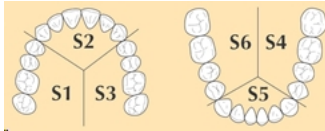
You can delete a periodontal finding by clicking on the “Delete” button. Note that deleting is irreversible.

## 11.3. Periodontal Screening and Recording (PSR) Index



The PSR indicates the progress of the periodontitis using the codes 0 to 4 and whether there is a need for treatment. The finding is determined using the periodontal probe and then read in to display the PSR.

The teeth are divided into the sextants S1 to S6 for the PSR. For each of the sextants there is one measurement from the probe. The highest measured value is used as the PSR for the teeth allocated to the particular sextant.

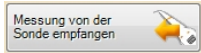


### 11.3.1. New PSR finding with probe

To determine the current PSI, first transfer the information from the initial examination to the probe using the button below. This ensures that the probe only measures the available teeth.



You can now carry out the measurement. Then read the measurements from the probe.



S1	S2	S3
*	3	*
S6	S5	S4
*	3	*

The new finding is entered in the list of PSI findings.

### 11.3.2. New PSR finding without probe

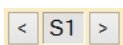


Click on the “New” button to determine the PSI from the last finding. The PSI finding is included in the list on the left side. You can find all PSI values, sorted chronologically, in this list.

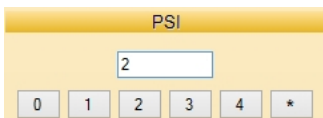
Liste PSI-Befunde						
Datum	S1	S2	S3	S4	S5	S6
30.03.2015	*	3	*	*	3	*
28.08.2014	*	0	*	*	0	*

### 11.3.3. Manual entry

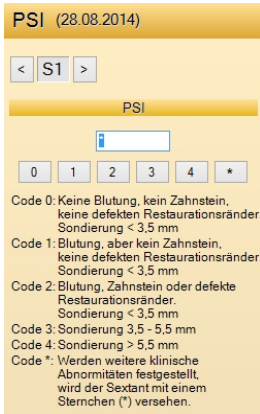
If you would like to manually modify a value, click on the corresponding sextant in the table and enter the new value. You can also use the arrow keys to move up and down in the table.



You can also click on the entry buttons to select a new sextant and enter a value.



The possible values that can be entered are explained on the right side in detail.



In addition to the values, you can add text to the finding that will also be printed with the values.

S1	S2	S3
0	4	*
S6	S5	S4
*	3	1

Die Schwere der Erkrankung in S2 erfordert dringende Maßnahmen

### 11.3.4. Save

Whenever you make a change to the finding, the “Delete” button vanishes and the “Save” button appears instead.



Save the changes to the PSI by clicking on the “Save” button.

### 11.3.5. Comparison

Every new finding is included in the comparison list.

Vergleich						
Datum	S1	S2	S3	S4	S5	S6
30.03.2015	*	3	*	*	3	*
28.08.2014	*	0	*	*	0	*

Clicking on an older finding in the list shows in the table how the PSI has changed relative to the current finding. A red minus sign indicates deterioration while a green plus sign indicates an improvement in the finding.

S1	+	S2	-	S3	+
1		3		0	
S6		S5	-	S4	+
*		3		1	

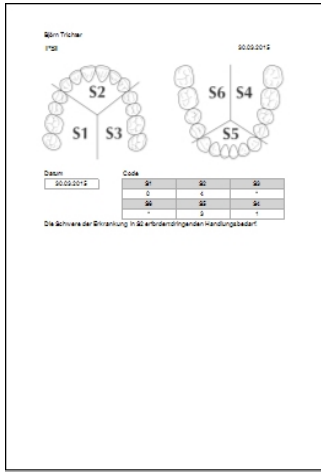
- green +: improvement
- red -: deterioration

### 11.3.6. Print



Using the “Print” button, you can print out the current odontogram. The table with the values for the findings and the sextants are printed out as well as any text associated with the findings.






### 11.3.7. Delete



Clicking on the “Delete” button deletes the current PSI after confirming again.

Note that this process is irreversible!

## 11.4. Plaque

If you have not carried out the  finding with the Parameter or if you would like to add another finding, you can enter the plaque measured for each tooth into the odontogram.

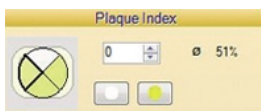
### 11.4.1. Entering and editing plaque findings



Click on the “New” button if you have not yet created another finding for this patient today. The plaque finding will otherwise be allocated to the selected finding.

### 11.4.2. Entering plaque findings

Select a tooth in the odontogram using the mouse or start in the first quadrant.



Enter the plaque index using the keyboard (“+” or “-”), scroll wheel, or mouse click. Use the arrow keys to move from tooth to tooth.



Alternatively, the plaque can be directly inserted on the measurement point in the odontogram using the right mouse button.

Example: Open the index card and move to the required tooth using the arrow keys. Then press the Enter key to access the measurement points for the tooth. The entry of values starts automatically in the first quadrant and moves through the four measurement points of the tooth by entering “0” or “1” or “-” or “+”. You can skip measurement points by pressing the Enter key. After entering the plaque on the last measurement point, you are automatically switched to the next tooth.

The plaque is shown in yellow on the odontogram. On the right side you can see the average plaque value for all teeth.

### 11.4.3. Save

Whenever you make a change to the finding, the “Delete” button vanishes and the “Save” button appears instead.

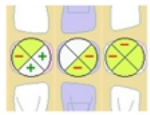


Save the finding using the “Save” button.

After clicking on Save, the new finding is located under the current date with the name “Plaque” in the list of findings. If there is already a finding with this date, the name is expanded with the addition of Plaque, e.g., “01 PA Plaque”.

### 11.4.4. Comparing findings

When saving a finding, it is included in the list of comparative findings. When clicking on one of the comparative findings, you can see the change in the plaque relative to the current finding.



- green +: improvement, less plaque
- red -: deterioration, more plaque

### 11.4.5. Display upper / lower jaw



Using this button, you can view the entire periodontal chart. An upper and lower jaw are shown. This is the default view at the start of the program.



Using this button, you can view the periodontal chart for the upper jaw only. This may enlarge the display in many cases and therefore increase the readability.



Using this button, you can view the periodontal chart for the lower jaw only.

### 11.4.6. Clipboard



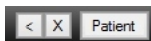
You can transfer the finding as an image to the clipboard. By clicking on this button, the current finding is saved to the clipboard.

### 11.4.7. Patient letter



Clicking on this button opens a window to select a text template or boilerplate text. Depending on the template, the relevant data and images are inserted directly into the letter. For more information, please read the help about text templates and boilerplate text.

### 11.4.8. Window size



Because the assessment in the periodontal area can be exhaustive, you can hide the list area on the left using the button to improve the readability. This increases the space available for the finding. The odontogram automatically adjusts to the new size.



By clicking on the “<” button the list is displayed in a narrower format. The window with the findings becomes larger.



The “>” button resets the list to the original width.

### 11.4.9. Export



The measurements for all findings can be saved in a file so that they are available for other programs. Click on the “Export” button and then enter the file name under which the file is to be saved.

Ensure that all findings are always exported, regardless of which finding you currently have open.

If you hold the shift key down while clicking on the “Export” button, Excel is activated and the finding is transferred directly to Excel.

### 11.4.10. Print



Using the “Print” button, you can print out the current odontogram. The comments that you have saved with the findings are also printed out.

### 11.4.11. Delete



You can delete a plaque finding by clicking on the “Delete” button. Note that deleting is irreversible.

## 11.5. API, PBI, SBI

Just as the PA results, the API and PBI findings are imported after probing with the Parometer. If needed, you may add and modify the findings directly.



Click the "New" button. If there is already a today's dental exam this new finding will be attached to it. Otherwise a new entry is added to the list.

### 11.5.1. Entering

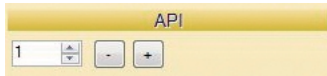
Select a gap or a tooth (for SBI) in the dental notation. You may use the arrow keys left/right or the spacebar to move to the next tooth in the arch. To move to the other arch press the up/down keys. Missing teeth are displayed as a little dot in the table.

All values are entered per session.

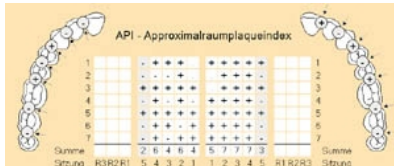
### 11.5.2. API

API

The approximal plaque index is entered using the keyboard (“+”, “-” or “1”, “0”), the scroll wheel, or by clicking the mouse on the buttons.



The current space is highlighted in gray in the list. Any plaque present is identified with “+” while the absence of plaque is identified using “-”.



### 11.5.3. PBI

PBI

For manual entry, select an interdental space in the odontogram by clicking on it with the mouse or using the arrow keys.

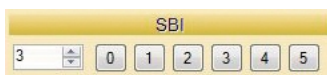


You can now identify any bleeding that is present using the values 0 to 4 using the keyboard, the scroll wheel, or by clicking with the mouse.

### 11.5.4. SBI

SBI

You can now identify any bleeding with the values 0 to 5 using the keyboard, the scroll wheel, or by clicking with the mouse. Please note, that the SBI is not measured with the Parameter.



### 11.5.5. Save

Whenever you make a change to the finding, the “Delete” button vanishes and the “Save” button appears instead.



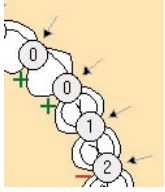
After clicking on the “Save” button, the new finding is located under the current date with the name “API” (or “PBI” or “SBI”) in the list of findings. If there is an initial examination already available for this date, the name is expanded with the new finding, “01 API” in this example.

At the same time, the finding is included for comparison in the list of comparative findings.

### 11.5.6. Comparing findings

Clicking on a finding in the list shows in the odontogram how the bleeding index has changed relative to the

current finding. A red minus sign indicates deterioration while a green plus sign indicates an improvement in the finding.



- green +: improvement
- red -: deterioration

The size of the “+” and “-” symbols indicates the degree of the improvement / deterioration.

### 11.5.7. Clipboard



You can transfer the finding as an image to the clipboard. By clicking on this button, the current finding is saved to the clipboard.

### 11.5.8. Patient letter



Clicking on this button opens a window to select a text template or boilerplate text. Depending on the template, the relevant data and images are inserted directly into the letter. For more information, please read the help about text templates and boilerplate text.

### 11.5.9. Print



Using the “Print” button, you can print out the current odontogram. The comments that you have saved with the findings are also printed out.


### 11.5.10. Delete



Clicking on the “Delete” button deletes the current finding after confirming again.

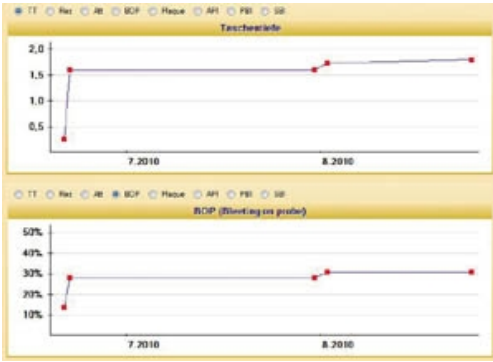
Note that this process is irreversible!

## 11.6. Progress

Under the category of  you can see the change in findings over time for a patient.

The graphs show how the individual average measurements have changed over time. Each of the two graphs shows a type of finding. The period includes the values from the first finding that was recorded to the current date.

To make a comparison, you can view the two curves for different types of finding at the same time.



Using the above selection buttons, you can switch to the findings that you want to compare by clicking with the mouse.

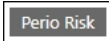
The change in findings over time can also be printed out (see **Print**).

### 11.6.1. Print



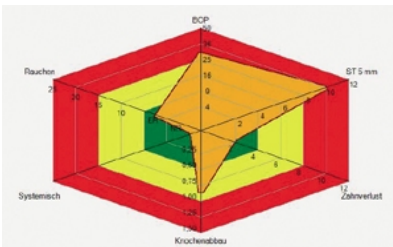
Using the “Print” button, you can print out the course for the findings. The comments that you have saved are also printed out.

## 11.7. Perio Risk



The image for the **Perio Risk** indicates the risk areas in bright colors. You can see here the severe or less severe risk factors as per the definition.

Depending on which values were measured in the assessment, the personal risk for the patient is thus apparent in the area shown in orange.



The risk assessment is described below the image. You can also enter additional comments here.



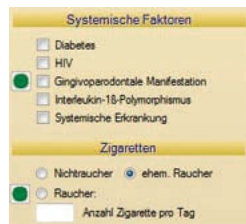
### 11.7.1. Risk Factors

The first four risk factors result from the previous measurement results in the assessment.



After taking new measurements, you must also generate a new risk assessment by clicking on the “New” button.

Enter the other risk factors by clicking on them.



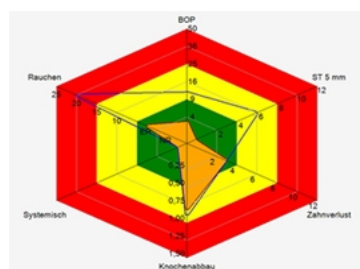
For smokers the number of cigarettes per day must be added. Using the text field below, you can add any comments.

### 11.7.2. Comparison

Whenever you make a risk assessment, this is saved in the comparison list. You can thus compare one of the previous assessments with the current one. To do so, click on one of the entries in the list.

Vergleich	
Datum	PA-Risiko
03.11.2011	Niedrig
02.05.2011	Hoch
22.04.2011	Hoch
08.04.2011	Mittel

The image shows the current risk with an orange colored area while the previously determined risk is plotted as a blue line.



### 11.7.3. New



By clicking on the “New” button, a new risk assessment is prepared based on the findings from the last periodontal measurement. The new risk assessment is included in both the list of all periodontal risks and the comparison list.

### 11.7.4. Save

Whenever you make a change to the risk factors or added a comment, the “Delete” button vanishes and the “Save” button appears instead.



Save the change by clicking on the “Save” button.

### 11.7.5. Clipboard



You can copy the current risk assessment to the clipboard. To do so, click on this button.

### 11.7.6. Patient letter



You can write to your patients directly from the periodontal risk index card. To do so, click on the button and select either the appropriate template or compose the letter using the pre-prepared boilerplate text.

For more information, please read the help about text templates and boilerplate text.

### 11.7.7. Print




Using the “Print” button, you can print out the current periodontal risk.

### 11.7.8. Delete



You can delete a periodontal risk assessment by clicking on the “Delete” button. Note that deleting is irreversible.

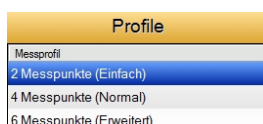
## 11.8. Configuration

Under the category  you can customize byzzParo. You can create and edit measurement profiles, setting up your probe connection and parameters, and choose additional configuration options.

### 11.8.1. Measurement profile

Here you define the measurement profile. You determine the location and the number of measurement points. Profiles for measurements with six, four, or even two measurement points can be created.

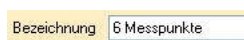
All new measurement profiles are displayed in the list on the left side.



#### 11.8.1.1. Creation of a new profile

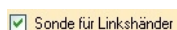


To enter a new measurement profile, click on the “New” button. Now name the new measurement profile by entering the title.



#### 11.8.1.2. Probe for left-handed user

The keys on the probe can be exchanged for left-handers. Check the corresponding entry to do so.





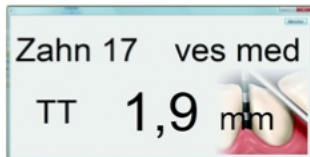
### 11.8.1.3. Measurement of pocket depth

Define how the measurement is to be carried out: every tooth in full across all measurement points or for each jaw first the outside and then the inside.

Je Zahn komplett  
 Je Kiefer erst. Fazial dann Oral

Messwerte am PC anzeigen

You can have the measured values displayed large on the computer during the measurement. Check the corresponding entry to do so. The display then appears as follows, for example:



Messdauer 0,6 s

The probe measures values for a tooth that settle at a value after a certain amount of time. For the measurement duration, you indicate how long the value must not change before it is accepted as the measurement. The measurement is therefore recorded if the measurement peak in the measurement point no longer registers a change for the measurement period.

### 11.8.1.4. Voice output

Keine Sprachausgabe

- Keine Sprachausgabe
- Sprachausgabe Messort
- Sprachausgabe Messergebnis
- Sprachausgabe komplett
- Sprachausgabe Messergebnis kurz
- Sprachausgabe komplett kurz

It is possible to have the measurement points and/or the measurements read out loud during the measurement. To do so, select the appropriate entry from the dropdown menu. For short measurements, the measurement is read out without a digit after the decimal point.

### 11.8.1.5. Measurement sequence

You specify for the measurement the sequence in which the quadrants are to be processed. The default setting is to measure from the first quadrant one after the other to the fourth quadrant.

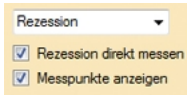
1. I. Quadrant  
 2. II. Quadrant   
 3. III. Quadrant   
 4. IV. Quadrant

By clicking on the buttons, you can swap the sequence of the quadrant with the opposing one so that, for example, the second quadrant is measured first and then the first quadrant.

### 11.8.1.6. Recession or loss of attachment

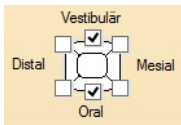
You can now decide whether you prefer to measure the recession or the attachment loss and whether the measurement points are to be displayed in the odontogram. The probe determines the value for the attachment loss from the recession that is measured and the pocket depth.

(In pa-on Transfer, the configuration “Display measurement points” is not available.)



### 11.8.1.7. Measuring points

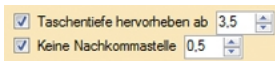
After defining the sequence, you determine the points on the tooth that are to be measured.



Place or remove a check mark by clicking with the mouse on the six possible measurement points.

For the display of the pocket depth measurement, you define from which value this is shown in bold. You can also define how precise the display is, whether digits are shown after the decimal point, and whether values should be rounded up or down.

(In pa-on Transfer this configuration is not available.)



You can select whether the pocket depths are recorded on an implant. To do so, place a check mark by clicking with the mouse.



### 11.8.1.8. Bleeding

After measuring the pocket depths, the bleeding can be measured. To do so, place a check mark by clicking with the mouse.



If you want to measure the bleeding, select from the dropdown menu when this measure will be carried out. You can record the individual bleeding values

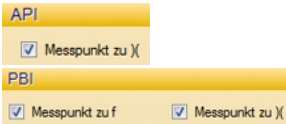
- either immediately after measuring a tooth
- or later after the measurements for a quadrant
- the third option is to indicate after measuring a tooth only whether there was bleeding present or not.

### 11.8.1.9. Measurement of plaque

Specify here which plaque measurement is to be recorded by the Parameter, the API or the PCR.



For the API or the PBI measurement, place a check mark using the mouse if the measurement is also to be carried out for gaps (gap closure "(") or for missing teeth ("m").



### 11.8.1.10. Saving the measurement profile



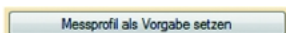
Save the new measurement profile or the changes using the “Save” button. If you have inadvertently altered an existing profile, click the “Undo” button.

### 11.8.2. Probe status

On the right side you can see the status of the periometer and whether your PC is connected to the docking station.



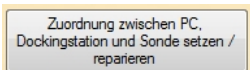
In the example, the probe called “Room 1” with serial number 0210 is in the docking station that is connected to the computer. You can start the measurement.



For a measurement without previous transfer of patient and finding, this profile is used. Measurements are taken at all teeth in accordance with this default.

### 11.8.3. Connecting probe and PC

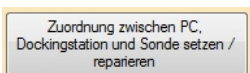
If you have several probes in operation, you must allocate the probe used for the measurement to the computer (“Link”). The process for the linking is also required when using a new probe.



Click on the button for linking the probe. byzzParo now searches for the docking station. A notification window provides information about any problems. Once you have resolved any problems, click on “Repeat”. If the probe is detected, click on “Use probe”. If you have connected a new probe, enter the data for the probe in the notification window and click on “Register probe”.

### 11.8.4. Renaming the probe

If you also want to rename the probe, click on the button for the linking.



The probe is detected and you have the option using the “Rename probe” button to enter a new name. Enter the new name in the next notification window and then click on “Rename probe”.

### 11.8.5. Export

The findings measured with the probe are again sent to the byzzParo program by using the button. To transfer the data to your invoicing software, you must export the data. The assessment data are written into a file that is read by your invoicing software. For the Excel export format, Excel is opened and the data are displayed directly in

Excel.

Export **Export CSV orangedental** ▼

The format of the data in this file can be selected using the dropdown menu. The following formats are available:

- CSV orangedental
- XML orangedental
- CSV FP
- INI
- Excel

### 11.8.6. Language

You can select a different language here. Select Default if you want to select the default language or you can select a different desired language. After restarting the program, the selected language is available.

Sprache **Vorgabe** ▼

### 11.8.7. Color schema

You can change the color scheme of byzzParo here.

(In pa-on Transfer this configuration is not available.)

Farbschema ▼

You can choose from the following color schemes:

- Orange
- Black
- Blue
- Gray

### 11.8.8. Window switching animation

You can switch the animation for the window switching on or off here.

(In pa-on Transfer this configuration is not available.)

**Animierte Fenster**

### 11.8.9. Default profile

You can select the profile that is forwarded to the pa-on Parameter as the default for transferring the findings (01 tab).

Vorgabeprofil **4 Messpunkte (Normal)** ▼

### 11.8.10. Tooth schema

You can select the desired odontogram for displaying the findings.

(Because pa-on Transfer does not display an odontogram, this configuration is not available in pa-on Transfer.)

Zahnschema **FDI** ▼

- FDI
- Alternate UNS

- Haderup
- English
- French
- UNS

### 11.8.11. Transmit information

When you send the data to the probe or receive it from the probe, the successful transfer is confirmed by a notification window. You decide using the selection menu whether or not the notification window has to be explicitly confirmed using a mouse click or the Enter key. You have the following options available:

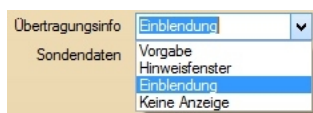
Default: The window is displayed and expects confirmation unless you have checked “Display again” in the bottom area of the notification window. In this case no notification window appears.

Notification window: The window is displayed and expects a confirmation. A default is not possible.

Overlay: The notification window is only briefly overlaid and does not have to be confirmed.

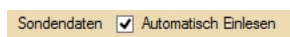
No display: No notification window.

In each of these cases the transfer button is green if the transfer has been successful and red if the transfer was not successful.



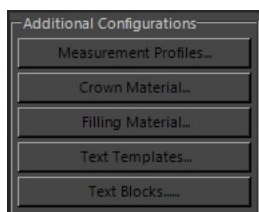
### 11.8.12. Measurement automatic reading

If you check this point, the data from the probe are automatically read when it is placed on the docking station. You do not have to first click on the read button.



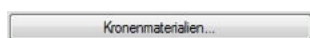
(In pa-on Transfer, you can immediately and automatically transfer the initial examination to the Parameter using the “Quick measurement” switch when transferring from the practice program.)

### 11.8.13. Additional configurations



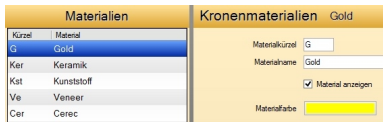
Here you can click on one of the buttons to determine crown materials or text templates, for example. This returns you to the original configuration page by clicking on the “Measurement Profiles” button.

#### 11.8.13.1. Crown material



Using this button you can define up to 15 crown materials in byzzParo. After clicking the configuration window for the crown material opens.

(Because pa-on Transfer does not display an odontogram, this configuration is not available in pa-on Transfer.)



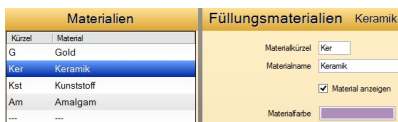
Read the chapter **Configuration of the materials** for adding and editing crown materials in the pa-on chm help file.

### 11.8.13.2. Filling material



Using this button you can define up to 15 filling materials in byzzParo. After clicking the configuration window for the filling material opens.

(Because pa-on Transfer does not display an odontogram, this configuration is not available in pa-on Transfer.)



Read the chapter **Configuration of the materials** for adding and editing filling materials in the pa-on chm help file.

### 11.8.13.3. Text templates

Read the chapter **Configuration of text templates** for adding and editing text templates in the pa-on chm help file.

### 11.8.13.4. Text blocks

Read the chapter **Configuration of text blocks** for adding and editing text blocks in the pa-on chm help file.

## 11.9. Help



A click on this category opens the pa-on chm help file.

## 12. General functions

Using the byzz nxt image processing software, all standard imaging systems can be controlled using one platform and all image data can be saved specifically for a patient. It also has support functions for patient advice and practice marketing.

You can learn more about the general functions of the program below.

### 12.1. Drag & Drop

Drag & Drop (DnD for short) is a basic functionality in Windows and is now also available in byzz nxt. This function allows you to move data / images back and forth between different applications and windows.

If, for example, you drop a photo from a storage medium while holding down the left mouse button onto the byzz nxt desktop, this image is imported – the prerequisite is that a patient is open.

This also works if you have received an email with an image attached and you move this image as described above into the open document view for the patient.

### 12.2. Print

If you want to print one or more recordings, right click and in the opened context menu Print. You can also use the Ctrl + P shortcut, or click the corresponding item from the Edit menu.

In the "Printer Settings" you can select the desired printer and whether you want to print in portrait or landscape format. Under "Images per page" you can select how much space your image may take up. Our recommendation: for OPGs = 1-2, for small X-rays = 4, for video = 2.

In the section "Text options" you can select which additional information should be printed. Under "Text position" you can specify schematically where these texts should be positioned.

Click on "Print" (bottom right) to send the desired data to the selected printer. You can also select "Print using the system dialog" to print using the standard Windows dialog. Depending on the printer, you have further options such as the selection of the paper size.

### 12.3. Import

If you do not want to or cannot import the images/files using Drag & Drop, it is also possible to select the data directory using the menu. To do so, click on "Edit" on the menu with the left mouse button and confirm "Import".

An import window opens that you can use to select where your images or files are saved on the left side using the Explorer view.

If there are data that can be evaluated by byzz nxt in the selected directory, these are displayed. You can now mark the required images/files and start the import process by clicking on "Import".

### 12.4. Import (VDDS)

All programs and imaging systems (even specific treatment units) that communicate via the VDDS media interface can be accessed by byzz nxt and data available there can be transferred back to the selected patient. Those programs on your PC that have this interface can be identified in the settings => see **VDDS**.

This is the quickest way to transfer "old data" from ongoing cases or data of interest from the old program.

The following programs/systems can, for example, be accessed with the VDDS media interface:

- Dbswin (Dürr)

- Romexis (Planmeca)
- i-Dixel (Morita)
- Multimedia units (Ultradent)
- Orthodontic evaluation programs

**Note:** The above products are copyright protected.

## 12.5. Export

By right clicking on an image or a selection of images (several images are selected), you can access the export function.

Unlike its predecessor, several functions have been condensed in byzz nxt so that exporting to a storage medium (USB stick, external hard drive, disk), sending with an email client (e.g., Outlook, Thunderbird, etc.), and burning to a CD/DVD are all available in a single window.

After you have made your individual settings, you can start the export process by clicking on “OK”. You can learn more about the individual export modes below.

### 12.5.1. General export settings

#### Export type

You define here how you want to export. The available options are:

- To computer.
- Burn.
- Send by email.
- TransCrypt.

#### Export image options

##### Original image

The image is exported how it was supplied from the source, that is, without any image modifications you subsequently made such as brightness, contrast, or filter.

##### With note

If you have inserted notes (annotations) in the image (arrows, implants, etc.) these are added when the image is exported.

##### All slices

If an image is made up of several layers/individual images, all images are exported individually into a separate directory.

##### Save image date as the creation date

If you activate this option, during export the image creation date, that is, when this image was recorded, is also used as the image date. This means that if you export an image from the past today, the image creation date is not the current date but instead the date on which the image was generated. You are given the additional information about when it was recorded for the exported image.

##### Max. image size

You can select here the image size to be exported – if no limitation is desired, we always recommend selecting the original size.

##### File type

You select here the format in which the file will be exported. Please note that when exporting in DICOM format, all other data for the patient such as name and exposure values are also transferred if the corresponding options are set. However, you also require a separate display program (e.g., IrfanView with plug-in, Sante DICOM Viewer) to display a DICOM image. Windows cannot usually display these images in a standard installation.



16-bit images are usually exported "as is", i.e. normal image viewers will not be able to interpret the image data correctly and will display it almost black (as does the preview in this dialog). The image options set will therefore be ignored unless the switch is set to "Export anyway".

Note that any 16-bit information will be lost and the format will be converted accordingly.

### Export view options

With the view options, additional information can be included in the exported image.

- Practice
- Title
- Image type/place
- Patient number
- Patient name
- Birthday
- Physician of patient
- Physician of record
- Record date
- Record parameters
- Keywords
- Description

### Export meta options

You can also select the following information for exporting data:

#### With findings

If assessment data are available, these can also be exported. However, DICOM, jpeg, or tiff format must be selected because these data can only be included for these image formats.

#### Anonymize patient data

If you export DICOM data but do not want to export patient-specific data as well, activate this option. The data are removed during the export process. The data within the program remains unaffected by this.

### Zip options

For the export types "To computer", "Burn" and "Send by email" it is possible to send all of the following export files into one zip file. If the switch is activated, the following options are available password options are available:

#### No password

The zip file is created without password.

#### Patients birthday

The zip file contains the patient's date of birth as password.

#### Custom

You can enter your own password. Please note that not all characters are possible. During input, the characters are checked and the input field is highlighted if invalid characters are entered.

### Export directories

Here you can decide how the export directories are created:

- Treatment date: Images are sorted based on their acquisition date and exported to appropriately named directories.
- Today's date: All images are exported to a directory with the current date as the name.

### Exclude external images

Images from external sources can be excluded from the export using this switch.

## 12.5.2. To computer

If you have defined the general export settings and selected “To computer” for the export type, you can change the export path in the top right of the window.

### Export path

You decide here where your data will be saved. The location where the data are saved is changed using the [...] button.

## 12.5.3. Burn

If you have defined the general export settings and selected “Burn” for the export type, you can define the burning options in the top right of the window.

### Burn options

The following options can be selected for the burning process or the hardware:

#### Drive

The program automatically selects a burner if this is recognized by the operating system. If there are none available or none are recognized, you can save the data in an ISO image that can be subsequently burned to a writable medium or used otherwise.

#### Burn speed

If a burner is recognized, you can set the burning speed here if applicable.

#### Eject medium after completion

If the CD/DVD is to be immediately removed after burning, activate this option.

## 12.5.4. Send by email

If you have defined the general export settings and selected “Send by email” for the export type, you can define the mail options in the top right of the window.

The following standard values are currently configured for sending data:

- A maximum of 10 files can be sent at once (the ZIP option creates a single file from a number of files).
- A maximum of 10 MByte can be sent at once.

These values can be changed in the settings under Export (see **E-Mail Options**).

## 12.5.5. TransCrypt

If you have defined all general export settings and selected "TransCrypt" as export type, you can define the options in the upper right corner of the window.

### TransCrypt Options

You have the option of sending the data to a partner (this data is created and assigned in the practice administration (see User)) or of entering the e-mail address of the recipient(s) separated by a semicolon. It makes sense to create a user in the "Partner" group if you want to send something to this partner more often (e.g. dental laboratories).

You start the transfer to the TransCrypt server by clicking "Send with TransCrypt".

The data is exported and then transferred in encrypted form.

## 12.6. Cataloging and searching images

You can attach additional information to each image in order to be able to find this image even years later. To do so, click with the right mouse button on the relevant image and select the “Image parameters” option from the options menu.

The image parameters window now opens. As well as the data for the image, you can also see or change the key words.

By clicking on the “Keywords” button, you can add or remove key words. These key words in the image parameters can be used as search terms in the advanced search. The key words that you want to use can be changed at any time. Please read **Metadata / Findings** regarding this.

## 12.7. Working with external programs

You have the option by accessing external programs, including the transfer of data, of further processing available/saved data such as transferring CBCT data to an external template planning program or exporting data for encrypted communication with a referrer to a crypto sender.

### 12.7.1. Configure an external program

Click in the right area of the toolbar on the “Start external program” symbol to be able to access and set up the external programs.

The upper part of the menu that now opens contains the programs to be set up (e.g., Adobe Reader, IrfanView, smop, etc.) and below this the option of defining new programs or adapting existing ones.

The following data can be entered:

**Name:** A unique name that identifies your external program (here Irfan-View, for example).

**Path:** The path where the executable program is. Select the path using the [...] button.

**Global switches:** Parameters or switches that can be included with the executable programs.

**Object switches:** Indicate here what is to be transferred to the external program from the current view. The following options can be selected:

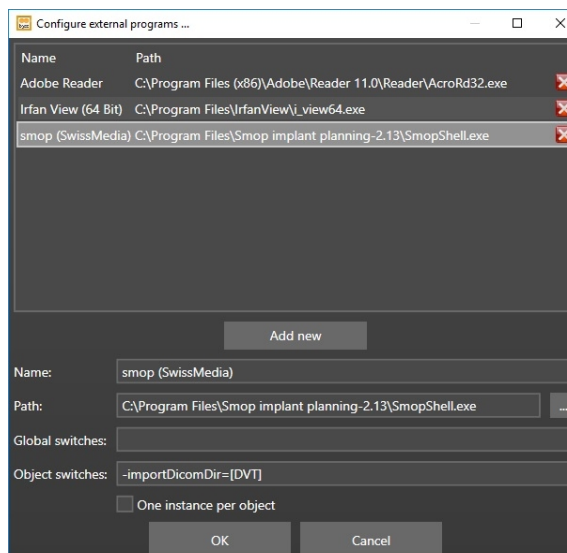
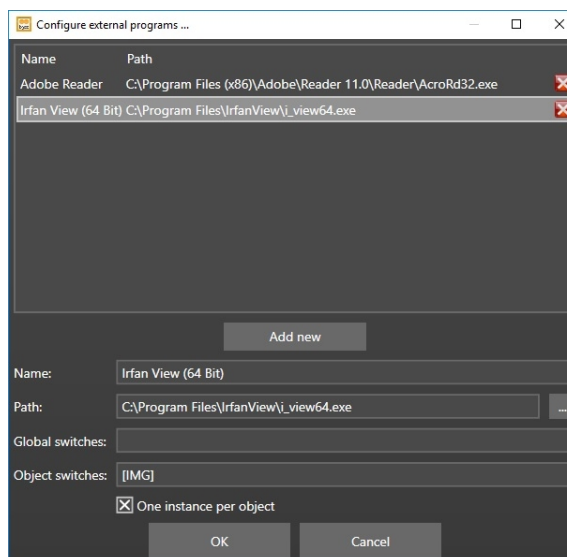
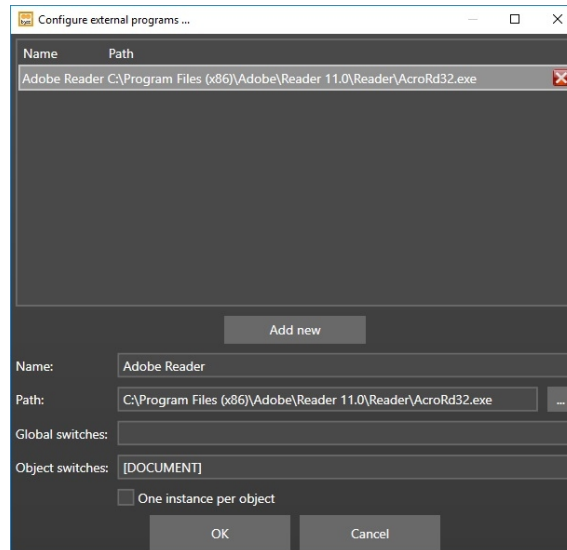
- [CEPH]
- [DVT]
- [OPG]
- [VIDEO]
- [XRAY]
- [IMG]
- [DOCUMENT]
- [MODEL]
- [LIVEVIDEO]
- [CATALOG]

**Example 1:** [OPG] = Transfers all selected OPGs to the external program (everything that is otherwise not selected is not transferred).

**Example 2:** [OPG, CEPH] = All selected OPG and ceph images are transferred to the external program.

**One instance per object:** Indicates whether all files will be transferred to the program in a single run or EXE is run separately for each file.

### 12.7.2. Examples of external programs



Please note the version installed for smop (2.13 here).

## 12.8. Take an x-rax image

Before recording can start, some **Device settings** may have to be made.

Using the “Record” button byzz nxt can, depending on the x-ray view and device settings, enable an x-ray sensor or start imaging software (capture software). Taking x-rays cannot be initiated using the software and must be manually initiated by a person authorized to do so.

Images of x-ray views are saved in DICOM format.

### 12.8.1. Start the recording process

For the first start of a recording process, a sensor is selected using the small arrow in the “Record” button. Other recording processes can be started directly using the button (the last sensor selected is used).

#### 12.8.1.1. X-ray

In the bottom area of the byzz nxt interface, an tooth schema is shown that allows the user to switch between adult and deciduous teeth using a dropdown bottom. byzz nxt with a licensed pa-on module also allows the choice of “Default” which includes the tooth schema in part with the presentation and color from the 01 examination.

The right side of the byzz nxt interface shows the list of the teeth for record, the alignment window, and the control buttons for the recording.

The teeth for record are selected using the tooth schema. If more than one tooth is marked, the recording is carried out in the sequence of marking (repeated recording). The sequence can be adjusted at any time using the list on the right side.

The selected teeth are included in the list with a predefined alignment. The alignment should always correspond to the alignment of the sensor in the patient’s mouth. byzz nxt rotates the image in the particular direction before saving. If you want to change the default setting, click on the corresponding tooth and adjust the alignment in the alignment window.

The automatic alignment can also be deactivated using the device settings. To do so, change the option “Use automatic rotation” for the affected device. This functionality is subsequently deactivated for this device and the alignment window will no longer be visible during recording.

If all teeth to be recorded are selected, the sensor/device is activated using the Start key (white triangle in a blue circle). The recording can now be initiated manually and the image is transferred to byzz nxt after the recording process is complete.

#### 12.8.1.2. OPG, CBCT, Ceph and model scan

In the capture software of the x-ray device, all x-ray parameters are set and the device is activated for recording. After reconstructing the image in the capture software, the completed image is transferred to byzz nxt.

### 12.8.2. Confirming x-ray images

Once the recording process is complete, the x-ray parameters can be adapted to the recording parameters in the confirmation window or be accepted with no change (parameters that have been transferred from the device cannot be changed and are grayed out).

### 12.8.3. Record Order

A recording job can be sent if the required device for recording is not connected to the current is available for the station used. First of all, the X-ray equipment must be available at various stations. must be assigned. This is done in the admin settings (Workstation settings Configure). The symbol of the recording job already indicates whether the station is a pure transmitting station or not. (arrow up only), or whether the station has been assigned a device (double arrow up and down).

#### 12.8.3.1. Send Record Order

A recording job can be sent by clicking on the corresponding icon in the bar, or by using the menu item "Edit" -> "Create recording job". A loaded patient is a prerequisite for creating an admission order. If the station is a sending and receiving station, you must click on the button "Create recording request" in the first dialog "Recording requests". The "New recording request" dialog opens. If the station is a pure transmission station, the "New" dialog is displayed. Application for admission". Here you can see all X-ray facilities already assigned to you and the and select the corresponding workstations. In the upper right corner you can see the "Doctor performing"

and define the "authorizing physician" as well as the "justifying indication" in the lower half of the dialogue to specify. With the "Send order" button, the recording order is sent via the server to the the corresponding workstation.

### 12.8.3.2. Receive Record Order

If a new recording job is available, the send and receive symbol for recording jobs pulsates. greenish. Click on the icon to open the "Recording jobs" dialog with a tabular overview. of all orders. Click "Start recording" (triangle icon) or "Cancel order" (X icon) to cancel the recording. Starts or cancels selected orders. When the admission is started, the corresponding patient is first and then start the recording process. If the station from which the job was started is has been sent, it is informed of the progress of the order in the status area.

## 12.9. TransCrypt

### What is TransCrypt

TransCrypt is used to transfer large amounts of data to one or more recipients. These guarantee a secure file transfer procedure especially for the medical sector and the simplest exchange of sensitive medical patient data. Byzz nxt has developed several additional functions around sending and receiving, so that the patient arrives with the required data at the recipient side. However, these functions are only effective if the recipient side also uses byzz nxt.

### 12.9.1. Sender

#### Configuring in byzz nxt

After successful registration, the log-in data must be configured in byzz nxt. To do this, log in as a user with administrator rights. Then go to "Tools => Settings => Practice management" and open the editing for the corresponding user (pen icon behind the user name). Now add the e-mail address with which you registered. Then press the "..." button located behind the e-mail address and enter your password. With a click on "Login" the login data are checked and the process can be completed with "OK". From now on, when the configured user is logged in, you can securely send your data via TransCrypt with byzz nxt.

If you want to get the status of your sent data, you have to set the computer as download station for TransCrypt. Go to the administration settings under "Tools => Settings => Admin" and activate the option "This computer manages the TransCrypt files/history" under TransCrypt.

**Note:** The computer must be connected to the Internet and the history will only be downloaded if it is switched on and correctly connected to the byzz server service.

#### Sending files procedure

See in the chapter "Export" the subcategory "TransCrypt".

### 12.9.2. Receiver

In order to transfer a file, you must invite the recipient to the process. The recipient registers once free of charge and can receive files from then on. Only when the recipient has successfully registered can data be sent to him or her.

**Note:** The data can also be retrieved directly up to a certain size. However, any assignment of admission/file to patient and practice is then missing. With byzz nxt, everything is done automatically.

#### Configuration in byzz nxt

After successful registration, the log-in data must also be configured for the recipient. To do this, log in as a user with administrator rights. Then go to "Extras => Settings => Practice management" and open the editing for the corresponding user (pen icon behind the user name). Now add the e-mail address with which you registered. Then press the "..." button located behind the e-mail address and enter your password. With a click on "Login" the login data is checked and the process can be completed with "OK".

Now all you have to do is to define the computer intended for this as the download station for TransCrypt. Go to

the administration settings under "Tools => Settings => Admin" and activate the option "This computer manages the TransCrypt files/history" under TransCrypt.

**Note:** The computer must be connected to the Internet and the history will only be downloaded if it is switched on and correctly connected to the byzz server service.

### Process of receiving data

Data sent via TransCrypt is polled at a configurable time interval (active polling) and the new contents are downloaded independently. After a successful download, you will be informed by a window in the Windows notification area that new files are available. The downloaded data is assigned to the sender practice and the sender patient. For this purpose, if necessary, a new practice is created in byzz nxt and the patient is created there or the images are assigned to an existing patient.

Right-click on the byzz nxt tray icon to display a menu where you can access the TransCrypt history since the start of the application via "Info" and change the frequency of polling via "Options".

## 12.10. Measurement

The **Measurement** tool is used to start a measurement in the recording. To carry out the measurement, define a starting point with the mouse, press the mouse button and drag the mouse pointer to the end point of the measurement. If the mouse button is then released, a window opens automatically in which the current measurement is displayed. The window shows the current measurement on the right and the reference measurements on the left if available. The measuring points as well as the display of the measured value can still be moved with the mouse. The measurement process is ended by pressing the "Close" button.

### 12.10.1. Reference measurement

In order to be able to measure accurately in the exposure, the **Reference measurement** tool is available. With this tool, you can measure an object that is displayed in the exposure (e.g. an X-ray reference or a scale integrated in the measuring set of the X-ray device) whose dimensions are known, as a reference for all measurements. If several such objects are present in the exposure, several reference measurements can also be made. The reference is then selected in the window for the actual measurement.

### 12.10.2. Chain measurement

A chain measurement is created by first creating a simple measurement. Further measuring points in the chain are added simply by mouse clicks. To remove a measuring point during the measurement, the key combination ALT + DEL can be used. This deletes the last measuring point in the chain.

### 12.10.3. Angle between two measurements

To determine the angle between two measurements, an additional function of the Angle measurement tool is used. First, the CTRL key must be pressed and held. Then the measurements whose angles to each other are to be measured are selected one after the other with the mouse. The selected measurements are displayed dashed and the measured angle is shown at the bottom of the image display.



## 13. Constancy testing module (byzz Constancy)

The constancy testing for digitally operated x-ray systems is a quality assurance measure that helps to ensure diagnostically valid x-ray images while keeping the radiation exposure of the patient as low as possible. Deviations in the image quality from the baseline status (reference image / initial image) or other changes to the device can be identified and eliminated using this process.

The radiation protection commissioner is responsible for routinely carrying out the constancy testing. He or she can delegate the execution of the testing to his or her colleagues, provided that they be able to prove the required knowledge of radiation safety.

With byzz Constancy, you have a program at your disposal that enables you to carry out constancy testing as well as the acceptance of X-ray facilities.

### 13.1. Settings

Before you set up the first x-ray facility, select in the settings which tests make sense for your test specimens and which provisions and laws you must comply with in your country.

The settings can be set separately for the areas x-ray, OPG, and Ceph. The settings that can be chosen differ in some cases depending on the area.

If gray-scale value testing is mandatory in your country, you can also define the relative size of the rectangle used for gray-scale value determination.

**Important:** The option gray-scale value testing and the size of the rectangle must be selected before creating the X-ray unit!

### 13.2. Definition of the X-ray facilities

Once you have adjusted the settings for your practice, you can set up a new facility by clicking on “New” in the area for x-ray facilities.

Give the x-ray facility, the x-ray source, the x-ray sensor/imaging plate, and the test block a unique name.

Using the combination of choices for the sensor type between X-ray, OPG, Ceph, CBCT and the associated device, the correct driver and therefore the correct device is started later for the constancy testing, that is, for the definition “OPG” + “PaX-i 3D Green”, the recording software of the PaX-i 3D Green is started for the constancy recording in order to produce the test specimen image.

If you have made all settings, set up the x-ray facility by clicking on “OK”. It is then included in the list of defined x-ray facilities. A constancy patient is also set up in byzz nxt where the associated images for the constancy testing are saved.

### 13.3. Acceptance of the X-ray facilities

The acceptance of a facility is carried out exclusively by trained personnel in accordance with the applicable regulations.

### 13.4. Execution of the constancy testing

To carry out the constancy testing for x-ray facility, select a device and click on “Take approval exposure”.

The device attached to the x-ray facility is started. Please carry out the recording as documented or in accordance with your training. If you have any questions about carrying out the recording or positioning of the test specimen, please contact your supporting dental wholesaler.

After the recording, your test image appears which is tested in accordance with the criteria defined in the settings



and must be checked off. If the gray-scale value testing is active, it is set by double-clicking with the left mouse button. Another double-click elsewhere in the recording moves the rectangle of the gray-scale value testing to this position.

Only once all the requisite test criteria are met can the image be saved as approval exposure. You must also specify the x-ray parameters (e.g., voltage) for an approval exposure. The recording program selected and other comments can also be added optionally.

If you have successfully carried out and confirmed the recording, your image is displayed and included in the list below.

Once an approval exposure has been successfully carried out, the function changes to “Take constancy exposure”. By clicking on this button, the program behaves in the same way as for the approval exposure but x-ray parameters can no longer be entered. The parameters for the constancy exposure must correspond to those of the approval exposure.

If you receive a request from the authorities to submit the images or the protocol, the following functions are available for this purpose:

- Print constancy list.
- Print selected images.
- Export selected images.

## 14. Maintenance module (byzz Maintenance)

This program also allows to create backups of your database and/or data directory from a client and also to restore them.

Apart from the delete automation, you will find all elements of the **data backup** of the configurator here.

Clicking on "OK" closes byzz Maintenance again.

## 15. Migration tool (byzz Migrator)

byzz Migrator is available for migrating/convertng the database of the previous version of byzz. The program can be found in the byzz nxt installation directory which is usually located under “C:\Program Files (x86)\byzz nxt”. We recommend starting byzz Migrator on the server.

### 15.1. Connection to the byzz.mdb database file

In the first step, Migrator queries the connection to the old database. If it cannot find the connection, no suggestions are shown in the dialog “Choose or create the connection to the byzz.mdb database file”. The name in the connection information can be freely chosen. The database type for the old byzz version is “Access”.

The database path where the current byzz.mdb is located must be entered – if you do not know it, you can find it in the old byzz version under File => Options => Database path.

Once the connection to the old database has been established and confirmed with the “OK” button, the byzz Migrator interface opens.

### 15.2. Connection to the program database

The configuration data are generally identified and read from the registry. To adapt the settings, click on “...”.

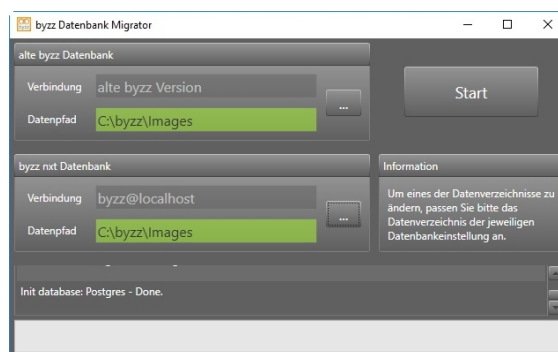
Enter the options for the byzz nxt database. The type of database is Postgres. The remaining data for the installation can be found in the **Server installation** chapter.

### 15.3. Migration workflow

There are two basic types of migration.

For normal migration with different data directories, all data is copied to the new space, which can take quite a long time if there are many files. The advantage of this version is that legacy systems from the previous version are not retained but instead only the data that are currently used for the patient base.

For the “in-place” migration, the same data directory is used as for the previous version. The interface shows this option visually by setting the background color of the data directory fields to green. No data are copied but instead only links are created in the database to each file in the old data directory. In-place migration is faster and for very large databases also the only technically feasible option in some cases.



If both databases are correctly connected, you can start the migration by clicking on “Start”. The first step is reviewing the consistency of the old database.

If an inconsistency is detected, a dialog box is opened in which the user must decide whether the migration should nevertheless be continued. The decision is noted in the Migrator log. The old byzz nxt database is first automatically backed up before the migration.

**Note:** Inconsistencies can occur and are usually not critical errors.

After completing the migration, you can export the result log as a file by appending this to the migration protocol.

**Note:** Under some circumstances, the complete migration may take several hours depending on the number of patients and images.

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Biberach, Germany, 18.11.2011

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## 18. Technical support

### 18.1. Hotline

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**Email:** [support@orangedental.de](mailto:support@orangedental.de)

**Website:** [www.orangedental.de](http://www.orangedental.de)

Please note that the information contained in this manual is subject to change.

### 18.2. Supplementary documents

In addition to this manual, there are documents about installing byzz nxt, connecting byzz nxt to various Practice Management Systems, and connecting various devices to byzz nxt.

These documents are copied to the “Documents” subdirectory of the byzz nxt program folder during installation and linked in the start menu under “byzz nxt”.

### 18.3. Directives

This product complies with the provisions of Regulation (EU) 2017/745 on Class IIa medical devices.



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