CIM system
Computer Integrated Manufacturing

The easiest and most innovative **Dental CAM**

20TH ANNIVERSARY

MILL BOX

Powered by sum3D DENTAL

Power and simplicity
in a single product

An Interface specifically developed for immediate use, with exciting new features that allow you to work even faster.

Specially designed for professionals who require simple and reliable tools. MillBox provides high performance in less time to get the work you want processed in a few simple steps.

MillBox is the dental CAM solution developed for milling any kind of restoration with any material.

Equipped with a simple to follow user interface that is both innovative and appealing, MillBox simplifies the nesting and toolpath creation.

Using MillBox means: Nesting operations are easier to perform. With a minimal amount of steps needed, new users are able to be operational in a very short time with very little training. MillBox is built on a powerful CAM platform that is easy to use and that decreases time and cost, which adds to a significant return on the investment made.
Made easier and more immediate with the new touch screen version!

BUSINESS BENEFITS

Increase your business due to the extreme ease of use of the software

Reduce milling time, material, and tool consumption

Save time and costs for training and support

All the tools using **just one click!**

NEW PROJECT

The MillBox workflow begins with the creation of a new project.
In this phase the user will find the machine to select among those
configured, the material on which the machining will be performed
and at last the fixture.
This sequence allows MillBox to prepare the phases of the process,
as all information related only to the choices made are loaded ,
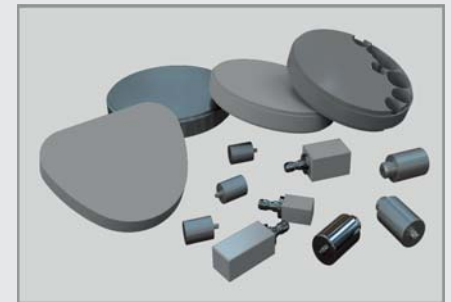without encumbering the calculations.
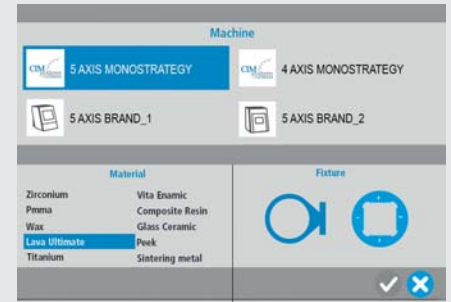
IMPORT THE ELEMENTS

The following step is to choose the type of object to be worked: bridge,
crown, implant, bar, abutments etc. are shown with a preview that
allows the user to view the element you are selecting to mill.
The object types available are dependent on the material selected.
Each individual element is analyzed in order to reduce the undercuts,
verify their height, the axis of the holes, and the recognition of the
margins.

RAW SELECTION

Once you have chosen the element to mill, the user switches to the
selection of stock (new or used). The user is guided in their choice
between new or used that fits perfectly to the positioning of the new
elements to be machined. The support connectors are automatically
created by MillBox that will show a preview of nesting.

## CALCULATION AND START MILLING

The calculation of the tool path can thus begin. At this stage there are two
main options: "Start Milling", in which the machine starts to mill without
having to wait until the completion of the calculation; "Save tool path",
where MillBox starts calculating and the CNC file is generated only at the
end of calculation.
There is a third option, called "Partial execution", with which you can start
or resume the machining from a particular point or stage of the milling.

KINEMATIC SIMULATION

In MillBox, two types of simulation are considered: one takes into
account the "zone", where you can see the finished product and
therefore any residual material on the parts not milled; a second
simulation of kinematic type, which instead allows the collision control
of all the elements in motion.
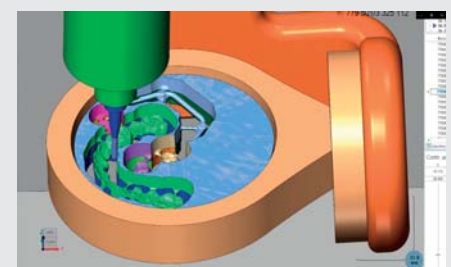
Main **Features**

IMPORTATION OF RESTORATIONS

Importation of any type of dental restoration (crown, bridge, etc.) from any Open CAD source. The recognition of the object type and morphology is completely automated, regardless of the CAD system used.

Automatic features will apply to each imported object (support pins, margin line detection , offset, orientation, etc.), as well as the optimized positioning in relation to the machine used.
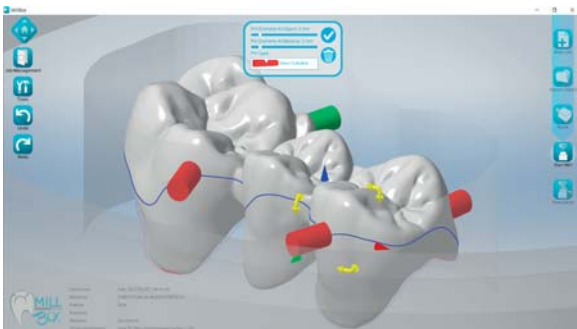
CONNECTORS - EQUATOR

Among the various automatisms of MillBox, when each element has been included, the support connectors necessary to the machining process are created, automatically identifying their positioning.

At this stage MillBox displays the equator line indicating the best position to insert the support pin. MillBox highlights the emergence of a possible undercut when a connector is inserted or relocated.

"SHADED" AND "MULTILAYERED" MATERIALS

All of the materials that are currently being used in the dental industry are supported by MillBox. This includes the possibility to view the color of the material in use and their gradient in relation to the restoration.

We can utilize and create "shaded" and "multilayered" materials with which the user can enter and move the element to the most appropriate position, thanks to the display of different colors within the defined stock.
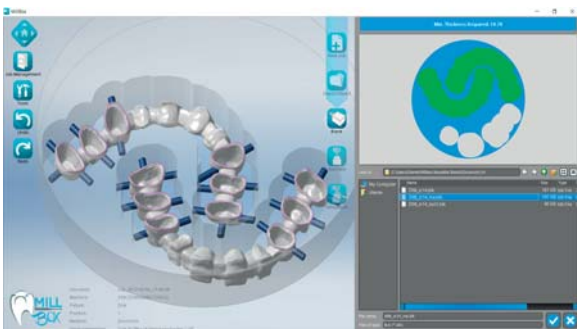
DYNAMIC RAW PREVIEW

In MillBox the new and used disks management is very intuitive. When all the elements to be milled are inserted, the selection of discs opens up. We can create a new disk to use, or select a previously used stock. The system will automatically place the new elements in the available space.
The stock library, which includes disks, blocks, cylinders and premilled, is completely open, offering the user the opportunity to expand it. The raw partially used stocks are automatically saved in the library (in which the residual space in percentage is highlighted) allowing it to be reused.
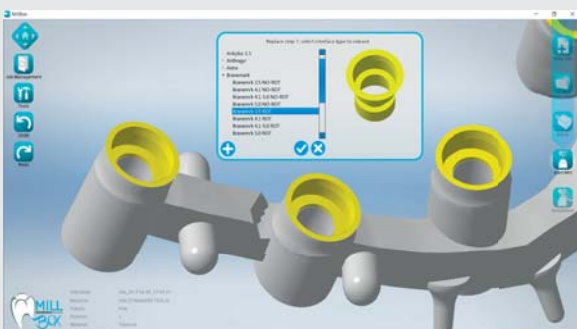

"REPLACE"

MillBox can automatically or manually replace an implant interface. There are several libraries of such connections that can be selected directly during CAM processing, replacing those present or missing in the files from CAD modeling.

The library, which is fully customizable by the user, allows for the association of specific strategies that may be needed to cut out the particular interface (shape and size of the tools, technical cutting parameters, type of processing, etc.).

CHECK AND EDITING TOOLS

In MillBox, different editing and control tools have been included. Among them: the analysis of the object, changing the margin line, recognition of the axes and holes, summary reports, and the reuse of previously used raw materials based on an image or file coming from different systems, selection of areas of work for specific operations, incisions and creation of closures over the holes to avoid unnecessary work in those areas.
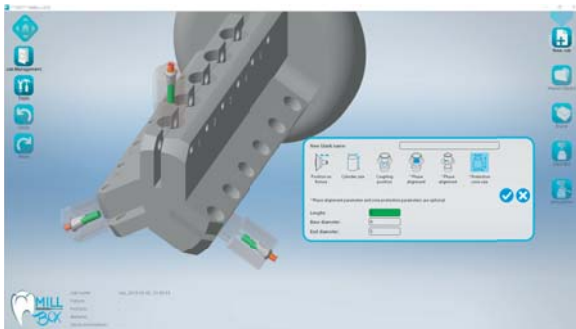

PREMILLED

A simple and economic process for the realization of custom items of high quality. MillBox is able to work the Premilled and importing of objects by positioning and arranging the machinings in a completely automatic way. Even where there are no connections that could be milled, we can create customized abutments (Custom Abutments) quickly and accurately, thanks to the integrated libraries.
MillBox provides a simple tool for generating premilled libraries. Given the multiplicity of suppliers, the user can quickly enter the ones he prefers.
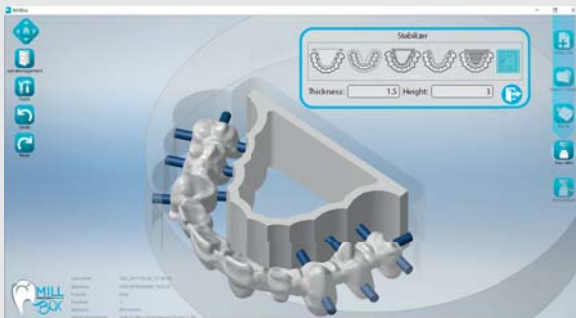
CUSTOM STABILIZERS

In MillBox you can handle up to 5 different types of bridge stabilizers, each with its own structure that adapts to the type of object requiring support.

It is possible to define the use of the types of stabilizers in relation to the type of element, or decide to use only one type for all elements.
The same configuration can also be made according to the material you are using.
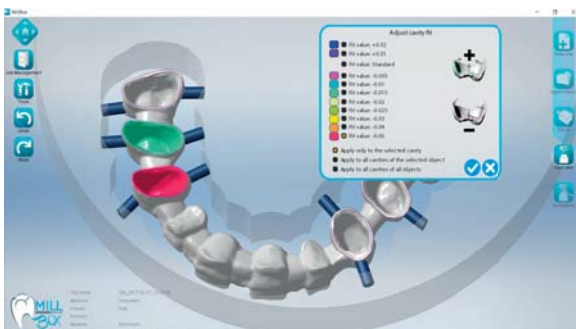
"CAVITY FIT"

If the Fit does not fulfill the technician's requirements, you can change it with a click by selecting the best match to the working element, without changing any kind of strategy or redesign the element.

Then you can set as default the parameters used for a particular material, so that you can automatically apply it whenever you import a similar item.
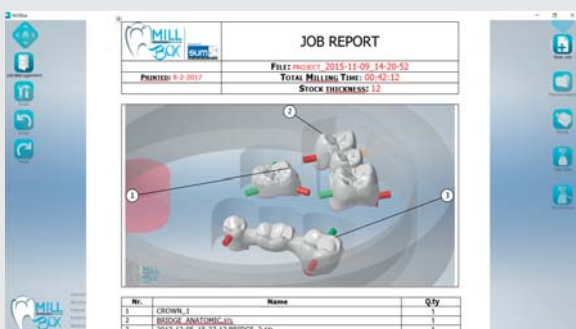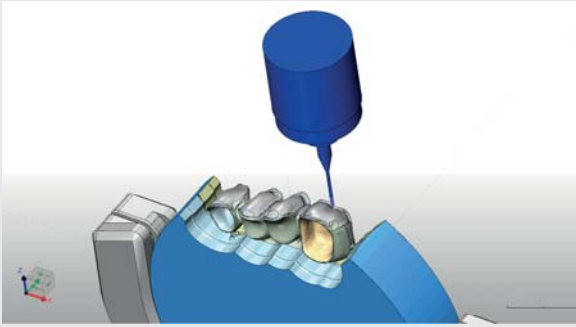

REPORT

The creation of custom reports and print-outs facilitate the organization and management of jobs, thus avoiding production and shipping mistakes.

A wide range of report variables can be managed in order to allow the automatic population of data for printing information on the run, the machine, the type & size of material and milling time.

Main **Features**

90° MACHINING

MillBox manages the open equipment automatically and allows machinings up to 90 degrees.

This function will facilitate the realization of morphologies with vestibular "cutbacks", guaranteeing the spaces necessary to ceramization.


ABUTMENT FIT

If the coupling does not meet the requirements of the dental technician, it is possible to intervene by adjusting the friction between the abutment and the analog with the abutment fit, with no need to completely mill the object again.
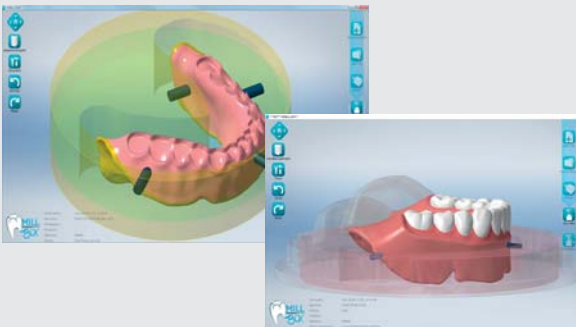
DENTURE

MilBox allows the machining of prostheses, starting from standard raws, shaped and multilayered. Depending on the workflow, MillBox automatically recognizes the zones to be machined.

Where the machine tool allows it, repositioning is managed.
All morphologies will be faithfully replicated thanks to specific dedicated machining strategies.
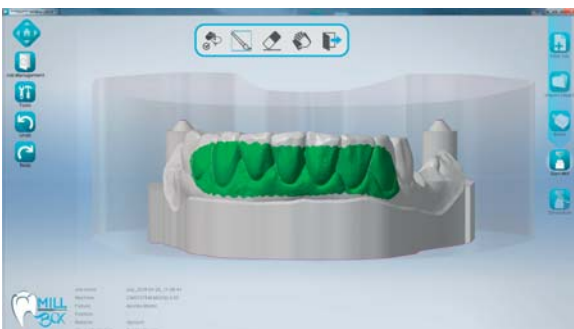
SELECTING WORKING AREAS

The user defines the areas where he wants to have a different degree of finishing, tool or machining of undercuts.

Through the use of a free selection tool (brush), the user can define areas to have a different degree of finishing, or a specific process, can define the areas where he wants to remove the undercuts manually, or can apply specific machinings.


ENGRAVING

The use of the engraving function allows the marking of each object made in the raw, making the identification easier once separated from the disk, and in this way its destination is guaranteed.

These incisions can be performed both on the support pins and on the element itself.
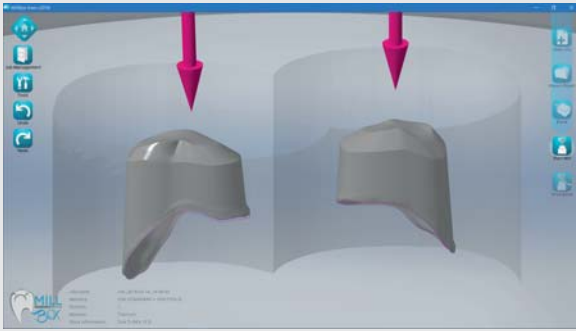
TELESCOPICS

When importing the telescopic STL files, MillBox automatically positions them. The automatic identification of an occlusal secondary axis will guarantee the precision of coupling with the secondary structure.
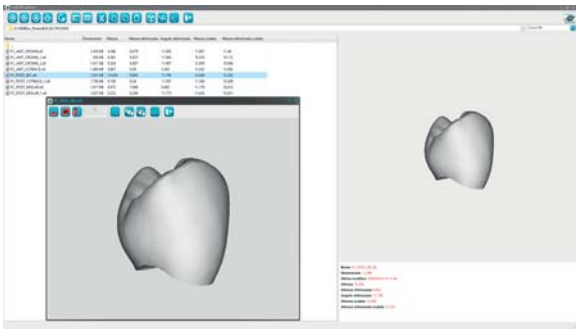

LAB3D EXPLORER

This important visualization and analysis tool allows to gain a lot of information about the objects before being put into production, among which: height analysis (considering the eventual reduction factor) and of the optimal angle, definition of the areas of contact, section control, size control, rotation.

LAB3D Explorer allows you to have useful information, speeding up the workflow before going into production.
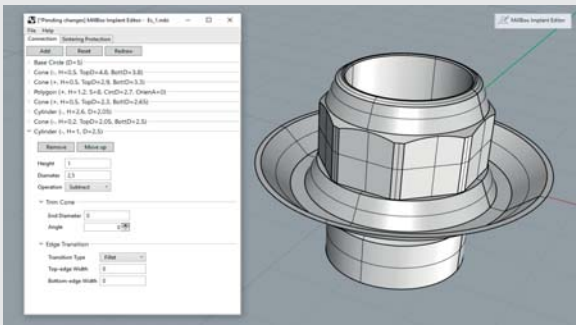

IMPLANT CONNECTION EDITOR

Tool for the design of your implant connections.
Using the Rhinoceros "Implant Editor" plugin, a guided process helps to create geometry and protective surfaces where necessary.
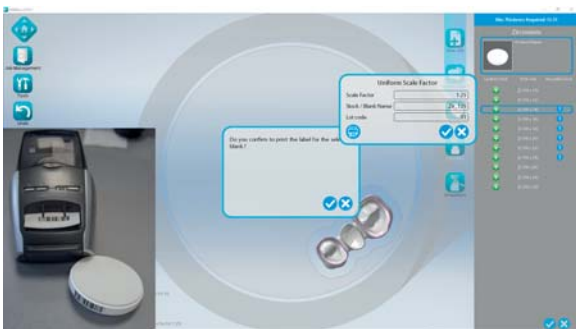
BAR CODE

MillBox provides a tool for the coding of blanks by barcode. When selecting a new stock, it is possible to generate its barcode which, after being applied to the disk, can be recalled in another job allowing the recovery of unused areas automatically.
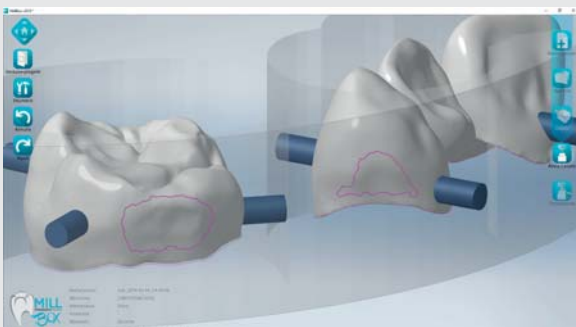
INTERPROXIMAL AREAS

MillBox recognizes the interproximal (contact) areas that have been defined in the CAD or in LAB3D Explorer. The connectors will be automatically positioned outside these areas.
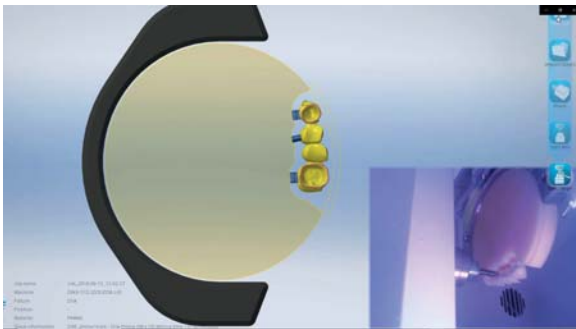
Main **Features**

PARALLEL IMPORT*

Depending on the number of processors available, MillBox allows you to load up to 14 STL files simultaneously in parallel.

This feature allows you to manage large amounts of files and thus accelerate the production of large milling centers.

CAMERA VIEW*

It is possible to set a live view of the mill, using any webcam connected to the PC or video cameras of the "IP" network.

The video window will appear as part of the MillBox background. This can be useful when the user needs to work in MillBox but wants to monitor the mill while it is working.
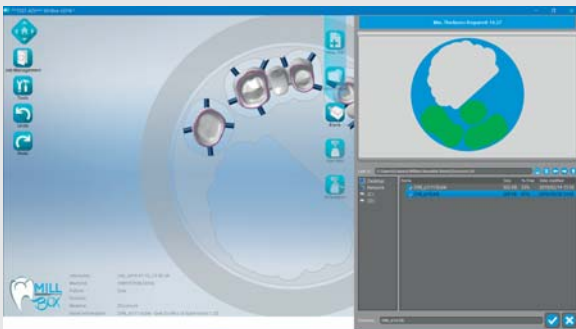

AUTOMATIC USED BLANK SELECTION*

If the automatic selection of used blanks option is on, every time the user goes to recall a disk partially used by his archive, the system will propose among the available disks those with less residual space, optimizing the use of the available material.

JOB SEARCH*

Job search is a tool that allows you to retrieve jobs already performed by using different types of filters (text, raw, machine, materials, object).

Combining the copy function (also available on new disk) to this command, it will be very easy to manage any duplication of jobs already performed.
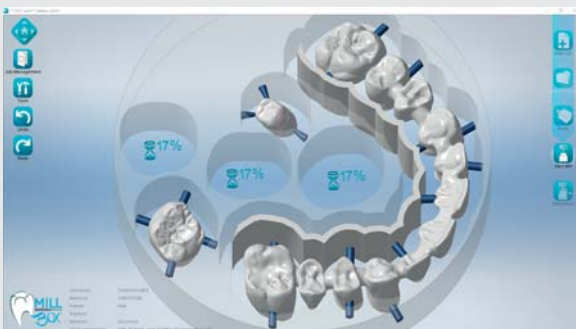
CALCULATION PRIORITY MANAGEMENT ON DISCS **

If necessary, MillBox allows to choose which objects have a calculation priority, when they have already been inserted into a disk.

The calculation will start in the background for the selected objects and the percentage of the calculation will be displayed in the position of the object.

COPY & PASTE**

The copy and paste function allows to duplicate identical objects, maintaining the position of the pins defined on the first one.

This function can be used when you want to work 2 or 3 copies of an identical object, without having to re-import it several times.
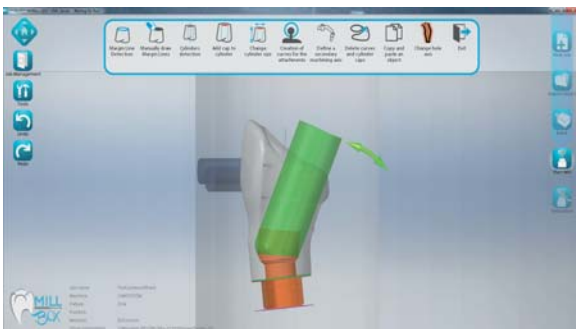
ADJUSTMENT OF ANGULATED CHANNELS**

This feature can be applied on abutments that have angled screw holes.
It allows the user to change the occlusal hole orientation.
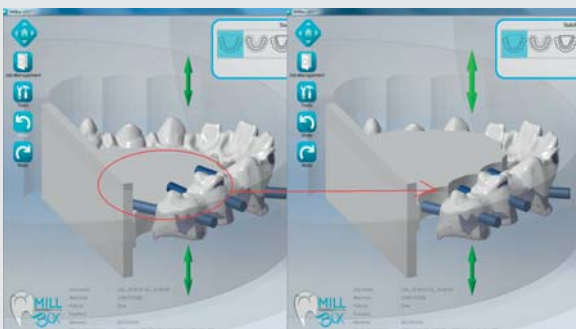
ADJUSTMENT OF STABILIZER IN Z**

If the stabilizer is not correctly aligned to the element, it is possible to adjust its position, moving it in Z according to the specific need and minimizing any distortion problems during the sintering phase.

A complete library of stabilizers will permit the most appropriate choice based on the shape of the element.

INTERFACE EXTRACTION**

This feature allows you to extract an implant connection from an imported object and then use it in the Replace library. You can also import the interface from the .MBI file, the new CIMsystem LAB 3DExplorer Rhino plug-in, that allows you to design new abutment interfaces.

Combining the "interface extraction" feature with the "abutment fit" one, it is possible to definitively optimize the couplings and the dimensions of the screw channels.

MINIMUM THICKNESS ANALYSIS**

After selecting this function, a dialog box with customizable values will be displayed and the analysis mesh will be displayed considering these values.

The thickness table can be saved for each separate material in the configuration section. When the function is on, the user can click on other objects to calculate the analysis mesh for each of them.

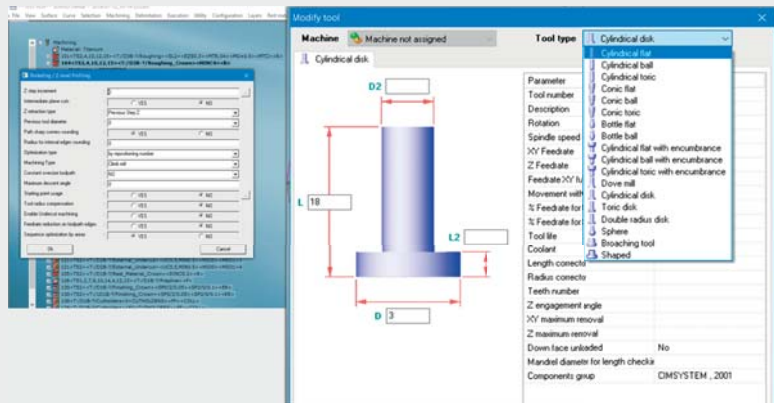*Modulo Comfort*   ** *Modulo Expert*

MILLBOX EXPERT

The best CAM intergration to work independently with MillBox

**Do you want more freedom from your CAM?
MillBox EXPERT is the answer!**

A reliable partner to customize the work done with MillBox and to better enhance your technical skills.

MillBox EXPERT is the most complete solution for the dental industry. Developed in collaboration with some of the most recognized milling centers, it is an open CAM which is versatile and extremely customizable. It also offers high performance with reduced calculation and miling times, all at an economical price! MillBox EXPERT allows the creation and modification of standard machining strategies, the insertion of new operations (eg. Holes, super-surface, etc.), as well as the management of tools.

INTEGRATION WITH MANAGEMENT SOFTWARE

Automation of loading processes, preparation and start of calculation of dental elements.

The integration between MillBox and the management systems allows the launching of calculation and production batches independently.
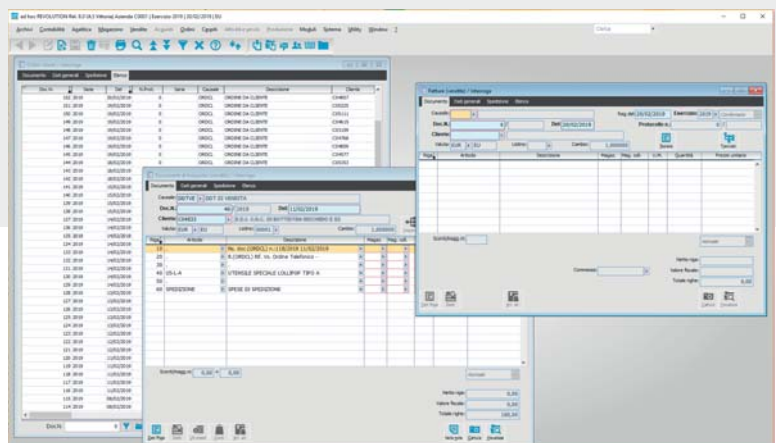

MillBox receives a production order from the management system, then creates a new project (for example with the name of the order), loads the objects according to their type to the machine that will perform the machinings and the material to be used, also taking into account its possible color.

The integration allows to avoid duplicated or missing jobs as the processing is handled by the management system. In case of a lack of disk space in MillBox, the system moves the excess items to another process or another available machine.
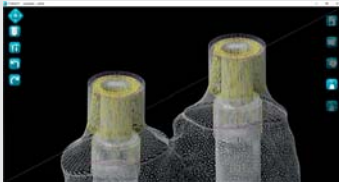
MAKE & MILL

Additional module of MillBox allows within the software, the use of two different technologies, additive and subtractive.

You can save money while maintaining the same accuracy of the milling.
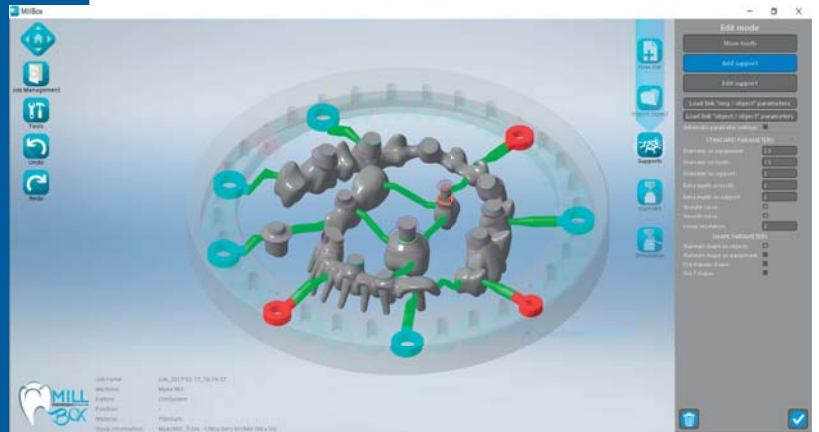
Available as a MillBox module, Make&Mill allows the user, within one application, two technologies: the additive and subtractive technique. Creating the object with additive technology, sintered metal or resin, the Make & Mill solution allows the user to take up work again to the milling object.
The benefit is double: the additive technology ensures lower cost and commitment of the operators, while the subtractive technology brings precision finishing to the surfaces of the restorations.

OPEN LIBRARY CONNECTIONS

Make&Mill arranges the objects to be sintered, adding allowance in the proximity of the implant connections that will be subsequently milled. The libraries are complete and editable using the "Implant Editor" module.

EASY CALIBRATION

The only user interface with wizard for the realization of the object ready to be sintered, the creation of the milling path and the calibration procedure of the support. It is possible to remove and reposition the support equipment in an easy way and without errors.

PERFECT MILLING

The widely tested machining strategies and the "nesting" centering system on the equipment, allows the machining of the connections with the tolerances required to obtain the perfect fit. All processing parameters can be changed by the user.
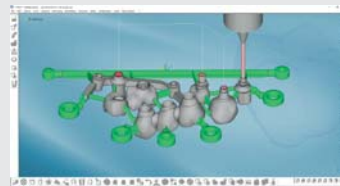
OPEN AND FLEXIBLE

Make&Mill is a complete solution that adapts to any technology and additive machine and to any milling machine. The exclusive system allows the milling on both sides and on one side only on plates of any shape and size.

USER FRIENDLY

No limitations on choosing raw materials or material suppliers	Standardized and fully customizable strategies and toolpaths	Work with virtually any open milling machine

Scan	CAD	CAM Programming	Milling

AVAILABLE VERSIONS

MILLBOX 5
ECO
5 axis, single machine, light solution

MILLBOX 5
STANDARD
5 axis, single machine, complete solution

MILLBOX 5
EXPERT
5 axis, open system, complete solution

MILLBOX 4
4 axis, complete solution

OEM VERSION

MillBox is an application that can be customized or integrated into an existing system. Customization can be set at the prompt level or with ad-hoc strategies for dedicated machines. Tailor-made importers and interfaces are designed upon request. Furthermore, specific function libraries can be displayed straight from pre-existing applications.

MillBox users are always up to date thanks to the continuing evolution of the software. For more information on all news, see "Release Notes" on our website.

Company profile

CIMsystem relies on its strong expertise in the manufacturing industry to fully support hundreds of customers.

Starting from the initial assessment of their needs, down to the implementation and customization of the right solution, we deliver high-quality, innovative, and powerful technical tools, with training from qualified individuals providing excellent after-sales service and support.

Reverse Engineering

CAD/CAM Systems

Data Transmission

Training & Consulting

AD HOC Solutions

www.**cimsystem**.com