laserDESK
laser processing software

Logfile of new Features and Bugfixes of the laserDESK Release Versions

Release 1.6.17.0 (03/03/2022)
New context menu item to assign a marking parameter set to a graphic element.

Improvement of the focus adjustment of the 3D Calibration Wizard: Now very small z-ranges (< 2mm) are supported.

Pulse synchronization for laser systems with internal frequency is supported now (only RTC6).

Improvement of the cutting and tiling function for large polygon trains (less time consuming with more accuracy).

Bugfix for Spot Distance Control: The activation in version 1.6.15.0 and 1.6.16.0 caused the RTC handler thread to stop with an exception (caused by the increased value range of the temporal offset).

Bugfix for SCANahead scan systems: Until now the SCANahead parameters were only adapted during the system initialization. If a scan head has been exchanged, the whole system has to be reinitialized. Now on every start the parameters are actualized.

Bugfix for execution list logging: If a job contains variable elements and control nodes the execution list (in RTCExecutionlist.txt) was only saved partially.

Bugfix for execution of selected objects: If a job with protocol nodes was used and only selected objects were executed the RTC handler thread could have stopped and the cursor remained as a wait cursor.

Release 1.6.16.0 (12/05/2022)
Extension of the 3D Calibration Wizard: For systems, where the focus cannot manually be adapted, a software adaption is now possible.

Integration of a special execution mode for the hatching (Short Vector Calculation) for filling lines with short gaps.

Improvement of the 'Connect' function. The calculation is more precise and allows to connect objects with a larger distance.

Bugfix: The manual laser control has not supported laser mode 4 and 6.

Bugfix for logging the RTC control commands: The correspondent menu items were not visible.

Release 1.6.15.0 (11/11/2022)
Integration of the logging of the RTC commands. Control commands and list commands are saved in different log files.

Remote command #47 – Switch Laser Beam: The pulse length parameter may now be *double* to allow values below 1µs.

Extension of the Generic Motor Control interface: An explicit error message is now supported.

Bugfix in HW-Configuration – page RTC card infos: The information was not displayed (only version 1.6.14.0)

Bugfix in HW-Configuration: Closing the dialog by the x-button had depended on the user action history. Now it is always the 'Cancel'-action.

Release 1.6.14.0 (7/27/2022)
Integration of the TrAck signal checking during a job execution (only available for excelliSCAN systems).

The laserDESK help system has changed. The MadCap Help Viewer is no more supported and has been removed. Therefore, the dynamic help window inside laserDESK is no more available. Dynamic help is now displayed in the standard browser using the HTML5 help system.
If you update laserDESK the MadCap HelpViewer may not get uninstalled. In that case you may uninstall it manually using the standard windows procedure via the Control Panel.

Correction of the IO status signals: If an error during job execution is detected the digital out line 8 (Extension 1) 'Job not aborted' is not set anymore.

Bugfix for the barcode creation. If very small codes have been created the calculated text size was too small (< 0.3528mm) and prevents the library to show the barcode. Workaround: After barcode creation one needs to increase the text size. Now the size limit is taken into account.

Text on Circle or Text on Path can be centered.

Release 1.6.13.0 (4/27/2022)
Bugfix for the protocol nodes: The selection of the source was not available.

Bugfix (only version 1.6.12.0): Switching into automatic mode and back without an execution and if the job has protocol nodes has broken the connection to the RTC.

Release 1.6.12.0 (4/14/2022)

New mode for bitmap processing: *Vectorized (up to 1 MHz)* – The bitmap will be converted into microvectors and the laser is switched on and off correspondent to the pixel values. This mode is especially suited for free running lasers where pulses on demand are not possible. To use this feature with IPG E-type lasers, the new full supported laser type *IPG_FiberLaser_E_free_running* is available.
For pixel lines an own parameter *Fore-/Overrun* is available now to define the acceleration time needed to achieve constant speed. Formerly the LaserOn-Delay was used for this purpose.

Increased functionality for the protocol nodes: For iDRIVE systems all available scan head data can be logged during execution, including actual and target positions. Mark and jump movements can be distinguished and will be visualized in different colours.

Genuine bidirectional hatching is now possible, not only by sorting.

Support of the pulse form selection of IPG E-type lasers with Adjustable Pulse Duration (APD).

Support of some more size formats of the datamatrix code.

Bugfix for releases 1.6.9.0 to 1.6.11.0: For non-premium editions the options dialog has closed with an exception and has terminated the program.

Bugfix for the Short Vector Calculation of Graphics Paths groups: If an RTC6 without a SCANahead system was used the Laser delays could be wrong applied resulting in unwanted position shifts.

Bugfix of remote command #51 concerning changed filling parameters: When a filling parameter was changed, all job elements got a filling, even not filled elements. Now only for the addressed elements the filling is calculated again and all other elements remain unchanged.

Release 1.6.11.0 (12/17/2021)
Integration of the Transformation Control Nodes to set a different transformation in between a job execution.
Integration of remote command #55 to change the transformation of these nodes remotely (during runtime). This allows to apply a vision system evaluation.

Integration of the total job execution time measuring including non-RTC actions.

Improvement of the UID handling: The repeat function now creates consecutive UID's in all cases. Elements with no UID are ignored by the UID creation.

Bugfix (only present in Release 1.6.9.0): The excelliSCAN scale parameters couldn' t be changed.

Bugfix of remote command #51: The exchange of filling parameters has not started a new calculation of the filling. Workaround for older versions: Call another command which recalculates the job, e.g. SetTransformation(0,0,0);

Release 1.6.9.0 (10/18/2021)
Integration of the Standalone support for RTC6eth boards. A new profile is integrated for that purpose.

If the hardware settings dialog was closed the settings were applied at once. Now several buttons with different closing options are present. Especially when closing by the X-button a ‘Cancel’ action is executed.

Integration of a warning dialog when the hardware configuration is updated, because there the RTC signal lines will be reset which may cause undesired trigger pulses.

Improvement of the error handling for the job checking (error vs warning).

Change for the stl file slicing action: Now the z-position can be defined for the first slice and no more for the bottom. For descending slices, it will be the top position. New: The parameter *Rotation* allows to rotate the slices in the working field.

Bugfix of dxf import of elliptical arcs in 3D: If an extrusion direction was defined, the import could create wrong arcs.

Bugfix for variable text with filling: If an empty string was used the filling property of the element was removed. Therefore, following strings weren’t filled anymore.
If an empty string was used as a barcode, “<?>” was coded and marked. Now it is skipped.

Bugfix for the Wait_for_Encoder control node: If PoF-type XY was selected the wrong calibration factor for rotation was used.

Improvement and Bugfix for the 3D-View: The limitation of showing all points in one polyline is raised to 10000, else some points will not be drawn. In 3D-view objects inside a layer were not displayed when the 3D view was activated for the very first time.

Bugfix: If a default font size with decimal places was defined it could prevent the program start in the Russian language.

Bugfix for remote command #53 – stl file import and additional slicing. If the option ‘Distance flag’ was set and small distances are defined several layers could be missing.

Bugfix for Beam-Tilt correction in the 3D-Calibration wizard: The repetition of the Beam-Tilt correction has not improved the result.

Bugfix in Options – page ‘View’: The visible checkbox was not applied correctly.

Improvement: If the correction file ‘Cor_1to1.ct5’ without calibration factor was selected, the pilot laser couldn’t be used. Now default values are used for testing purposes.

Bugfix for stretched bitmaps: If a bitmap was not proportional stretched in a job and loaded again, it was reset to a proportional size.

Bugfix for remote command #51 – set specific parameter value: If a library parameter set should be changed and assigned instead the object parameter set was changed and assigned to the library parameter set.
Furthermore, an assigned parameter set was saved local to the object and the link to the library was lost.

Bugfix for stl-file import: If independent objects exist inside one stl-file and empty slices were created the import stopped with an exception. Now empty groups are created for empty slices.

Bugfix: If the Automatic Mode and Remote Mode are active and a Start signal was applied before the job end was detected, the internal state could become corrupt.

Improvement: When a full supported laser could not be switched off (e.g. because of wrong status signals) now the hardware access is disabled and the RTC IO's are reset.

Bugfix for the TruPulseNano Trumpf laser: The pulse form selection was not working.

Release 1.6.8.0 (5/7/2021)
The 3D Calibration Wizard can now be used 'Offline' and run in the 'Demo' version without a Dongle. This allows calculating new correction files for your specific system without buying a laserDESK license. In 'Demo' mode you need to mark the necessary patterns by your own.
For undefined optical systems you can calculate an adapted correction file from scratch using the Cor_1to1.ct5 file. This file is supplied in the laserDESK installation package and has no calibration factor anymore. Former installation packages had a Cor_1to1.ct5 file with calibration factor 10000[bit/mm]. During the calibration process a suited factor will be evaluated.
Change: If a correction file has no calibration factor laserDESK assumes a factor of 10000 [bit/mm]. Former versions have assumed 8000 [bit/mm].

Bugfix for bitmaps: If a pixel line needs calculated interpolated pixels (original bitmap has less pixels than needed) pixels with value 0 could be created at the end of the line due to rounding errors. If 0-pixels have a defined laser output this could create undesired laser pulses.

Inside a GraphicsPaths group the layer property of the leaf elements was never used. It will no more be displayed for point and line elements, too.

Bugfix of the z-range calculation of an element with a layer property where the layer has a z-offset.

Bugfix for 'Power' property in the marking parameter set: If 'cw' mode was selected and one switches to a different parameter set and back the power property was disabled. As a workaround one has to temporarily set 'pulse mode', switch to a different property set and back to the marking properties to change the power.

The 3D Calibration Wizard menu item has moved and is now accessible directly in the *Hardware* menu or by pressing the function key <F2>.

Improvement: When laserDESK is updated by a new version the actual user settings saved as parameters in the configuration files *user.config* and *Application.config* will be taken over.

New Hardware Setting: *Save CPU Time* on page 'Miscellaneous'. If this feature is activated, the CPU usage will be reduced. For time critical job execution it should be off to avoid latency effects.

New parameter for the spot distance control: Temporal offset for the laser signals adjustable.

Release 1.6.7.0 (04/13/2021)
Bugfix for remote command #42 – Set PoF field transformation. Using this command has stopped the RTC access.

RTC6eth card support of the spot distance control activated.

Release 1.6.6.2 (03/09/2021)
Bugfix: The coarse marking area calculation was wrong.

Release 1.6.6.0 (03/01/2021)
Integration of the remote command 'SetMarkingCount' (#54).

Bugfix for arcs in graphic sets. The checking of concentric arcs could be wrong and has created circles.

Release 1.6.5.0 (02/12/2021)

Integration of the Trumpf TruPulse nano laser system as a full supported laser.

Integration of the remote command SliceSTLFile' (#53). An stl-file will be imported and sliced into parallel layers. Several parameters control the slicing result.

Integration of an improved timeout handling for the RTC6eth connection. It can be set in the Hardware Configuration on page RTC Boards.

Bugfix in page RTC-Boards of the hardware configuration. If only an RTC6eth board was present the board access could be denied after closing the dialog and a reacquire was necessary.

Detection of local IP address: Possible Bluetooth adapter is ignored now. It could use a different subnet mask.

Marking parameter sets could sometimes be displayed for Graphics Paths and filling groups but will never be applied. Now they will not be shown anymore.

Integration of the remote command 'Set specific parameter value' (#51) to set one specific parameter of an object or parameter set.

Integration of the XML configuration file editor in the 3D calibration wizard. This wizard allows to adapt setup specific values of the data file.

Integration of the Marking area calculation dependent on the selected correction file.

Integration of the Motor Wizard which defines the Hardware Configuration settings of a new motor.

Bugfix for 'Production' user. Not all edit functions were disabled (e.g. it was possible to change Font-Text strings by a mouse double click).

Bugfix in Hardware Configuration dialog: If one closes the dialog by pressing the 'Enter' key, the edited text in the active text box may not be taken over.

Improvement for cw marking: Now the frequency and pulse width are no more accessible and are not error checked anymore. For CO_2 Lasers cw corresponds to 100% power. Therefore the power value will be adapted.

Release 1.6.3.0 (10/5/2020)

Bugfix for the laser delays for RTC6eth: Since version 1.6.1.0 these values were wrong calculated by a factor of 32.

Release 1.6.2.0 (9/23/2020)

Integration of the remote command 'Request Head Parameter' (#50): For iDRIVE systems some head parameters can be queried.

Bugfix for Barcodes with bar line reduction (only laserDESK versions 1.6.x). Due to a change in the barcode library the modules could have overlapped instead reduced.

Workaround for the old versions: Use the filling with outline reduction to reduce the modules.

Support for asymmetric bitmap marking: The pixel distance in x and the pixel line distance in y can be adjusted differently in the bitmap parameter.

Release 1.6.1.1 (8/26/2020)

Bugfix for the ABC calculation in the 3D Calibration Wizard for the RTC5 board (only present in release 1.6.1.0). The 20 bit z-values were not used.

Bugfix for manual starts with amount 0. This has disabled all starts.

Release 1.6.1.0 (7/28/2020)

Bugfix for stl file import: The start angle of the filling was always set to zero.

Integration of new RTC6 firmware release 1.7.5 (DLL 621). Because of an interface change older laserDESK versions may not work with this new firmware in all cases.

UID handling improved and can now be deactivated. This may reduce execution time when dealing with many objects.

Improvement of the 'Repeat' function and addition of a new option: All copied objects can be put into a GraphicsPaths group. This reduces the execution time deeply especially for a big amount of objects.

Bugfix for grouping action: If the first element was selected for grouping, the group has been placed at the end, not at the first position.

Bugfix for the laser wizard: If it was called outside the hardware configuration and cancelled some values had been initialized and not reset.

Improvement of the manual laser control: If a CO_2 Laser is selected now only the power defines the pulse width (duty cycle).

The remote command #32 - Load/Replace Vector Graphics has got an additional flag (enKeepPosition). If set, the position is taken from the file values and the command values are ignored.

Displaying of tips during startup of the program.

For RTC6 cards now 20 Bits resolution for the z-value and 1/64µs for the laser delays are used (see *set_rtc6_mode* in the RTC6 manual).

Bugfix for the 'Flip' action: For some objects it hasn't worked.

Support of multiple GS1 code sequences in datamatrix codes.

New function to separate the filling from the graphic element to handle it individually.

New option to display the filling as an area (not resolved as filling lines) to save computing time.

Integration of the tolerance factor for x,y-calibration to adapt the calculation to the measurement setup.

Bugfix for hatched groups and GraphicsPaths groups: Drag & Drop and Undo / Redo hasn't adapted the filling. For GraphicsPaths groups inserted elements were not removed.

Release 1.6.0.1 (4/2/2020)

Integration of the remote commands *Release RTC* (#23) and *Acquire RTC* (#24).

The remote command #32 - Load/Replace Vector Graphics has got an additional flag (enScaleFactors) to allow the scaling of the graphics instead of an absolute size.

Bugfix for RTC card selection when some card(s) are acquired by other programs.

Release 1.6.0.0 (3/2/2020)
laserDESK runs now as a 64 Bit program (all components are 64 Bit).

Integration of new RTC6 firmware release 1.6.1 (DLL 617)

Change of the installer from Wise (no more supported) to NSIS. The checking of already installed versions remains valid.

Improvement of the excelliSCAN support. Now it is possible to use the excelliSCAN even if no SCANahead parameters have been defined (yet). In that case default parameters will be used now and no switching to an intelliSCAN occurs.

Improvement of the UFPM Bitmap marking: If no pulse variation is selected now a 1:1 duty cycle will be used and no more the last defined pulse width. This could have led to a constant signal level and no pulse trigger anymore.

Improvement: The dimensions of elements (especially polygons) were restricted by the marking resolution. Now the graphic resolution is taken into account to allow a higher resolution. Only for the execution the marking resolution is used.

Improvement of RTC list reloading for micro_vectors (optimization of block sizes).

Bugfix in the Hardware Configuration – page 'RTC Board'. This page could reassign the card numbers which might shutdown the program in a subsequent card search.

Race condition between switching off the automatic mode and fast switching on again solved. The GUI may not have displayed the correct state leading to some non-responsive functions.

Release 1.4.8.1 (11/25/2019)
Integration of new RTC6 firmware release 1.6.0 (DLL 616)

Integration of the sub_cycle switching support of the ShortVector.dll for marking of very short collinear lines (new ShortVector.dll).

Improvement for the tile set: If a tile set is changed either by drag & drop or by the remote command #32 (replacing a vector graphic) the tile parameters will automatically be recalculated for the *grid* mode to take a possible size change into account.

Bugfix for variable text objects changed by a remote command: If this element has a marking count larger than one the update of the text was partly wrong.

Bugfix for ISEL motors: The position query could have failed due to timing problems of the serial communication.

Release 1.4.8.0 (10/22/2019)
Integration of the Generic Motor Control interface. Using this interface one can control every kind of motor directly from laserDESK. The customer needs to write his own specific motor control dll.

Integration of the new SCANLAB correXion library with advanced features. This library will be used by the 3D calibration wizard and replaces all old calibration tools.

Bugfix for Release / Regain RTC button: Only card no. 1 was handled. Now it is applied for the active card.

New options for 3D slicing: The sequence of the levels can be selected now to create upside down execution for deep engraving. An IO signal exchange can be inserted between the levels for easy execution control by a PLC.

GeneralPlusType laser: Now the error level is selectable in the laser wizard (high/low active).

Bugfix / Workaround for Windows 10: The system could return an empty font. If selected this could lead to unpredictable character designs. Empty fonts are sorted out and no more selectable now.

The laser and automatic mode activation by IO signals can't be interrupted anymore to avoid frequent on-off-on sequences. Now only after a finished switching process a possible state change will be detected.

Integration of wobble mode selection: *ellipsis*, *lying* or *standing* '*8*'.

Integration of new RTC6 firmware release 1.5.2 (DLL 615) which allows PoF with excelliSCANs. The needed mode switch will be automatically done by laserDESK.

Release 1.4.7.5 (09/12/2019)

Bugfix #47: The laser beam was switched on only a very short time.

Bugfix for acquiring the last used PCI RTC card at program start.

Bugfix: Calculation of the z-values for Graphics Paths groups.

Release 1.4.7.4 (07/25/2019)
Bugfix 3D Calibration Wizard – ABC Correction: The z-positions inside the line pattern were partly wrong (since release 1.4.5.6). This results in a wrong ABC factor calculation.
Minor Improvements of 3D calibration wizard: Support of small z-ranges (< 1mm) in the 3D calibration wizard for f-theta systems.

Bugfix Remote Command #45 – Select RTC card: If a card was selected which was no more available the wrong card type could be saved. This results in a program start where no card could be automatically acquired ("card not found").

Remote command #21 – switch automatic mode on: The requirements are more restrictive now. The command will be denied if RM_STATE_LST_EXC is set.

Bugfix for individual sky writing parameters: There always mode 1 was used.

Release 1.4.7.3 (06/28/2019)
Bugfix - Selection of the last used card at program start: If it was an ethernet card the card was no more selected when it has lost power. That was due to a change of the BIOS.

Bugfix – Automatic mode switching with an interruption by an external stop. It could happen, that the system hangs in that switching state and could only be released by a new card selection.

Release 1.4.7.1 (04/18/2019)
Integration of new RTC6 firmware release 1.4.5 (DLL 611.0.8)

Improvement of the 3D calibration wizard:.
The tilt correction step is now available for 2D prefocussing systems.

Bugfix of sorting function for graphics paths groups.

Integration of the stl file import with additional slicing for 2.5D processing.

Integration of new RTC5 firmware release 544.
Now *set_port_default_list* for Bitmap processing (to keep power constant after each pixel line) is applied for the RTC5, too, when using the speed dependent laser control.

Bugfix: The calculation of the z-Dimension has not taken into account a z-shift defined in the layer transformation.

Integration of the ramping function.

Reset of the scan head position to (0,0,0) during a hardware configuration change to avoid fast jumps.

Support of the layer properties in tileset groups.

Support of the 3D Transformation defined by 3D layers inside graphic sets.

The Graphic Set element doesn't support layer properties. But the objects inside the graphic set may have layer settings. Until now only the 'Visible' property was supported. Now the layer property 'Mark' is evaluated for those elements, too.

Bugfix for pixel line filling for barcodes: Rounding errors could create gaps or additional border pixels. For inverted barcodes it may not worked at all. The code may be marked inverted.

Release 1.4.5.7 (3/21/2019)

Bugfix / Workaround for some Windows PC's. There the actualization of the Output Window (Windows Forms text box) could last several seconds and has frozen the program during this time. The workaround avoids this.

Bugfix for arcs, circles and ellipses in groups: When x- or y-flip was activated or the group has a transformation the arc calculation could be wrong in special cases.

Release 1.4.5.6 (1/31/2019)

Bugfix for RTC6 boards (only in version 1.4.5.5): Due to a wrong version checking of the RTC6 firmware the RTC6 boards couldn't be acquired (error message " The DLL (610) doesn't support some necessary functions"). Now the firmware version and checking is adapted again.

For RTC6 ethernet boards a specific ethernet error number is now displayed.

Release 1.4.5.5 (1/03/2019)

Bugfix for Bitmaps without automatic laser control (only RTC5): *set_port_default* was not used to adapt the power level during jumps between pixel lines.

Integration of the intelliWELD II zoom axis support.

Integration of the short vector marking support: In Graphics Paths groups one can activate this feature. All elements inside this group which are aligned will be executed with constant speed and without jumps and delays, similar to a pixel line.

Improvement: Until now circles were executed as 4x90° arcs. Now circles and circles inside groups and graphic sets are executed as full 360° arcs without any polygon delay. Only circles in symbols still need to be executed as 4x90° arcs due to calculation issues.

Bugfix: The execution sequence of the filling and outlines was exchanged for filled groups with outline reduction.

Integration of the vario*SCAN* monitoring: If no 2nd scan head is enabled, the monitoring of a vario*SCAN* can be activated.

Integration of the individual inversion of the movement direction for horizontal (x) and vertical (y) axes. Setting is possible in the hardware configuration on page 'Hardware devices'. It allows the correct calculation if an axis is not build in aligned to the scan head axis in the system. This inversion will be taken into account for the tiling and the view of the marking movement.

Bugfix for variable objects: If all variable objects are set to 'no marking' a list end command was missing resulting in an infinite execution and it could happen, that old list commands were executed at the end of the job.

Improved check of RTC firmware (dll-, out- and rbf-version check). Now the laserDESK release requires the latest available firmware version at release date. This firmware will always be included in the installation package. It can only be replaced by forthcoming firmware versions.

Integration of a 'special' barcode filling. This filling is a barcode object property and therefore always individual to the barcode object. One can define the amount of filling

lines per module and opposite to the standard filling the number of hatch lines per module will not vary throughout the whole code. This filling insures that all modules (and spaces) get the same width.
For 2D codes an additional option is available: *Execute filling lines as pixel lines*. For this execution the filling lines of each module are combined together and converted into pixel lines. These lines will be executed with constant speed and without mark and jump delays. For higher speeds the execution time will decrease.

Bugfix for remote command #45 – card selection: If a card was selected and no card of this type was present in the system laserDESK has shut down. An error log was placed in the *SLLaserDesk.exe.trace.txt* file.

Bugfix for layer functions: If objects with layer information were copied into a graphics paths group and later on this layer gets different marking parameters the program had crashed.
If a default layer was defined in the options (page 'Create') the drawing of the job elements (colour …) in the graphic view could be wrong, especially for text objects and after loading a job with layer information. This is corrected for new created jobs and also for old jobs created by previous versions.

Bugfix release 1.4.3.3 (08/06/2018)

Bitmap processing: Integration of new command *set_port_default_list* to keep power constant after each pixel line (only RTC6).

Several minor bug fixes.
Bug fix for remote command #4: Since version 1.4.1.3 this command returned a value not equal to zero when the client was not logged in.

This version uses firmware 1.4.1 for the RTC6 with several important changes and bug fixes.

Bugfix release 1.4.3.2 (07/10/2018)

Bugfix PoF (only versions 1.4.2.3 and 1.4.3.1): PoF jobs caused the RTCHandler thread to shut down due to a wrong RTC dll function call.

Release 1.4.3.1 (06/21/2018)

Integration of the 3D calibration wizard for calibration of an optical 3D system (including tilt correction, xy-plane correction, stretch correction and A,B,C value adaption).
It can also be used for a simple 2D correction in the xy-plane.

Integration of the UFPM (Ultra Fast Pixel Mode) bitmap marking for the RTC6.
This feature allows frequencies up to 3.2 MHz and uses the output channels Ext1, Ext2 or pulse length.
If an UFPM mode is selected and the job or Hardware Configuration file is saved it cannot be opened by an older version anymore. You should back up your old HW Configuration if you intend to go back to an older version or you have to save the HW configuration or job with the standard bitmap mode.

Integration of the speed dependent spot distance variation (for RTC6). This requires the RTC6 DLL version 609 and an excelliSCAN.

Integration of remote command #47 – Manual activation of the laser beam - to switch the laser beam on/off.

The 'Stop' button now gracefully finishes the marking if the RTC board 'hangs' (stays in busy state) to allow a reinitialisation of the board.

Bugfix for arcs with 360° angle: The calculation of the start angle and conversion to Bezier curves for distorted arcs was sometimes wrong.

Release 1.4.2.3 (04/20/2018)

Bugfix for 'WaitForEncoder' element: If the job was created with a different encoder type and the type has been changed in the hardware configuration, the WaitForEncoder element could have used the wrong encoder type. That resulted in an infinite waiting state or no waiting at all.
Now if the PoF encoder definition is different between the HW configuration and the job settings the job will be temporary adapted to the HW configuration (only if the selection property is hidden due to no selection possibility).

Integration of the RTC6 Ethernet Card support.

Integration of the card selection. All available cards of the system can be searched for and one of them selected. There is no more the restriction to use card number 1 of the DLL administration.

Integration Remote Command #45 – Select RTC Card.

Integration of function 'Convert vectors into point lines'. The selected vector graphics will be substituted by a graphics paths group containing point elements with a defined distance and time duration.

Integration Remote Command #46 – Convert vector object into points.

Integration of a special vision system evaluation for PoF applications (for SCANalign).

Extension of remote command #15 – set serial number: Now a selection parameter defines whether the start, actual or end value is adapted.

Bugfix: Polygons and GraphicsPath couldn't be centered or repositioned directly by the menu command. Their point list had been deleted. Inside groups there was no problem.

Bugfix for 'Paste' action using the context menu of the job explorer. There the copy has used mouse position data of the graphic window instead the position of the original object.

Bugfix for Copy and Paste: Some 'Paste' actions are not allowed when the library explorer is active. This could have led to corrupted jobs when saved.

Bugfix of dithering method 'Jarvice Judice, Ninke.

Integration of *set_fly_tracking_error* support to adapt the encoder values to the scan head tracking error for PoF applications (preview mechanism).

Intermediate Release 1.4.1.4 (11/27/2017)

Bugfix for last Version 1.4.1.3: Remote command #4 – status query – has reset the status flag RM_STATE_JOB_LOAD.

Bugfix (for versions 1.4.0.5 or later) The remote command 'Set Text' (#14) has not worked anymore.

Integration RTC Option 'SCANahead'. Only RTC's with that option can use the SCANahead technology for excelliSCANs.

Release 1.4.1.3 (11/14/2017)
Bugfix (only for version 1.4.1.2) Tracking error wizard has not worked anymore.

Bugfix (only for installation package 1.4.1.2) Chinese resources were not included.

Bugfix (only for version 1.4.1.2): Home position was not commanded after abortion of job execution.

Release 1.4.1.2 (25.10.2017)
The activation of the 2nd scanhead in the hardware configuration now automatically sets the usage to both scan heads.

Bugfix of Align - functions for small objects.

Spiral object: If the spiral rise type is changed, the correspondent value will be adapted to keep a similar shape.

Increase of resolution for line intersection calculation to improve the import of very short arcs with a large radius.

Bugfix: Expand command caused shutdown of the program if applied to groups or graphic sets.

If the GeneralPlusType laser uses the output synchronization the Digital In1 of the laser connector is needed and can't be used for the laser state. In that case the Digital In2 input is used.

New command in the layer window context menu: ‚Delete with Elements': The selected layer will be deleted together with all elements belonging to that layer. If a group belongs to the layer, the whole group will be deleted.

Integration of the command 'move in z' for 3D elements.

Bugfix for SLPlaceAction: Has not worked for elements with edited point list but only reset the point list.

Bugfix for Remote Command #40 – Emergency stop of motor axis. This command was not executed if the axis movement was remotely started.

Bugfix: The direction arrows of rotated arcs were drawn on wrong positions.

The SPI G4 RM laser type can now select 2 different pulse forms.

Integration of simulated starts for full supported laser types. If the laser is switched off, the whole job (RTC execution list with control nodes) can be executed with disabled laser signals.

Since version 1.2.1.1 the point marking was limited by 167,772s execution time due to the maximum value of the timed_mark_rel parameter. Now this command is inserted several times to increase the time range.

Bugfix remote command #28 – Execute global matrix transformation: In Automatic Mode this command caused a communication shutdown due to a wrong type cast.

Bugfix for Import Barcode Elements: When a job is loaded, the link to the text file was not initialized until the element has been selected. This resulted in a static behavior (no text update). Now the link is actualized when the job is loaded and additional the graphic view is updated.
If the text file is missing it is now possible to select an existing one.

Bugfix for dxf import of Ellipse Entity: If the main axis is parallel to x the start angle was not used.

Integration of the Task Parallel Library of Framework 4.5. The RTC control, laser control, remote control and list calculation are now executed on Tasks (instead on threads) and may run on different cores.

Integration set_defocus command in z-focus control node as a new execution type. The defocus will be reset at the end of each marking. That is a very different handling than of the z-position which will remain until changed by another command.

Bugfix for excelliSCAN jobs: If a job was created with activated excelliSCAN support, the excelliSCAN settings were always used even if it was deactivated in the hardware configuration. These settings couldn't be deactivated again but their usage could only be corrected by individual element parameter.

Bugfix for RTC6: If no excelliSCAN is used the HEAD_BUSY flag can be in a wrong state. Therefore it may not be checked without excelliSCAN activation. This could have caused a hanging of jobs with motor, vision or serial control nodes.

Bugfix for excelliSCAN: The LaserOff delay parameter was not used. Instead LaserOn Delay was applied.

Integration of segment count setting for cylinder mode tiling.

Integration of position display for ISEL controller (only possible after a movement has finished).

Bugfix (for previous 1.4 versions): Right edge position of rotated bitmaps with bidirectional marking was wrong.

Integration of remote commands #43 and #44 for advanced transformation settings (for 3D or 2 scan heads).

Change of the timing of the 'Automatic mode on' status signal: Now it is set after list download, switching the shutter open and the start input is enabled. If the start signal was sent immediately after 'Automatic mode on' signal active, it could have been blocked.

Integration of the RTC6 firmware version 1.3.1. This version needs an RTC6 BIOS 2.1 or higher. Older RTC6 firmware and BIOS versions are not supported anymore. In case a BIOS update is necessary.

Release 1.4.0.5 (3/21/2017)
Bugfix (only for version 1.4.0.2): POF wizard for encoder calibration was wrong initialized.

Bugfix for Reference Run Button of motor axes. This could have caused a controller initialization failure.
Faulhaber motor will ignore end switch signal when moving in not blocked direction.

Bugfix: Allow RTC card selection for Office-version.

Point marking has not applied the wobble if it was not circular due to a missing direction information. Now the direction is fixed to the x,y coordinate system.

Release 1.4.0.2 (01/05/2017)
Bugfix: Stepper motor initialisation at program start has always failed.

Bugfix svg Import: Group without transformation attribute caused import failure (only for versions 1.2.1.6 – 1.2.1.8).

Log file size limited to 50MB. Number of log files limited to 20, the oldest one will be deleted. Log file access now thread safe to avoid write operations from different threads.

New generic Laser type integrated: ***GeneralPlusType***. The RTC settings of this type can be defined using the laser wizard as for the *GeneralType*. Additional a 'Laser Enable' (or switch Laser on) TTL signal is provided (Laser Connector Digital Out 1) which is high active and switched by the 'Laser On'-Button. And a 'Laser Status' signal is watched (Laser Connector Digital In 1, low active for system ok). If an error is detected the system reacts the same way as for full supported laser systems.

Bugfix: All motor axes have been assigned the same serial connection (the first in the list of defined connections) when the hardware configuration – page 'Hardware Devices' was opened. One had to reassign all connections again before leaving the page.

Bugfix: Remote command #38 "Set marking parameter for all objects of a layer" for text objects had caused a shutdown of the remote connection.

Function 'Reference Run of all defined motor axes' integrated. With a button or menu item all selected axes can be referenced using the hardware configuration settings.

Bugfix (only for version 1.2.1.8): The remote command #20, transformation in manual mode, was not applied if 2 scan heads were used.

The manual laser control and scan head positioning now use the x,y flip settings of the hardware configuration.

Bugfix PoF with simulated starts and encoder delay = 0. These settings cannot work due to RTC limitations. To allow this the encoder delay will be set internally to 1 encoder signal.

Integration of remote commands #40 (axis movement commands) and #41 (axis status query).

Integration of the remote command #42 (Transformation of the virtual marking field for POF applications).

Integration of the RTC6 support. If different card types RTC5 and RTC6 are present one can select the first card of one kind.

Integration of the excelliSCAN support. The marking parameter set is extended and correspondent to the selected head type in the hardware configuration head specific parameters are displayed or hidden.

Changed target framework: The used .NET framework now is 4.5. Therefore Windows XP® is no more supported.
New feature ‘Speed dependent laser control’ integrated. This feature needs an intelliSCAN. If activated bitmap processing and position logging is not possible.

Integration of a ‘Runtime Information dialog’ which gives some detailed information about the actual state of the system (RTC and if available motor axis, laser).

Tracking error wizard improved. Now additional to the tracking error the maximum scan head speed is evaluated and the whole evaluation estimates the appropriate test parameter by its own. No user input is necessary anymore.

Increase of resolution for line intersection calculation to improve the import of very short arcs with a large radius.

Intermediate Release 1.2.1.8 (08/08/2016)
Bugfix: The handling of a text object in a mirrored group was wrong if the group was edited or rescaled (transformation, filling and conversion).

Bugfix: The bounding box of a symbol reference was wrong calculated if a parent object has a transformation. Especially for vector file import with shift into the origin this has caused that the content was not inside the view.

Bugfix only for version 1.2.1.6: The automatic power control of intelliSCAN systems caused the protocol nodes not to work anymore. Furthermore the tracking error and variable polygon wizard have not worked correct.

Feature “Integration of automatic power control and monitoring for intelliSCAN systems” of release 1.2.1.6 is removed again, because systems which use an SL-to-

XY converter don't return the Power and Temperature status and would not be operable anymore.

Bugfix: If a transformation is defined in the Hardware Configuration and one executes the job in manual and remote mode via a remote command the transformation was not applied.

Intermediate Release 1.2.1.6 (07/07/2016)
Integration in Options – Page 'Directories':
Definition of directory for the log files:
- laserDESK.log.txt,
- protocol<timestamp>.csv, (only for intelli*SCAN*)

The default directory is *C:\ProgramData\Scanlab\SLLaserDesk\log*.

Support of the inclined plane feature for the reference to symbol objects integrated.
Bugfix: The filling of a 'Reference to Symbol' object was not displayed in 3D views.

Modification of the RTCIO-Dialog:
- Integration of the Laser Connector IO's
- Integration of an Automatic Update Switch

Bugfix: Remote command #31 – Change job marking parameter – has not worked if the job had an individual anonymous parameter set.

RTC function "External Stop signal deactivates start input" is switched off now. This could have caused the automatic mode not to react anymore if an external stop signal last too long.

Integration of automatic power control and monitoring for intelliSCAN systems. During job execution it is checked, whether an intelliSCAN or varioSCANi is connected and the power state is checked. If a power failure is detected the job execution will be aborted and an error is signaled. This feature is applied even if no power state checking is activated in the hardware configuration.

Bugfix for job with variants: If a job was reloaded the Garbage Collector could remove the UID of variable text / barcode later. Then this element can't be changed by remote commands anymore.

Bugfix for IPG Laser status checking. If an error state was detected for a very short time (e.g. an induced signal pulse) the error handling could fail and set the GUI to an undefined state.

Bugfix / Improvement for the svg file import: Evaluation of the transform – attribute.

Release 1.2.1.1 (05/09/2016)
New laserDESK
Features and Bugfixes

Remote command #38 "Set marking parameter for all objects of a layer" included.

Remote command #39 “Get layer names of job” included.

Handling for point object marking changed: Now the Mark Delay is applied after the point mark.

New Feature: Switch laser / automatic mode remote via I-Signals
Used lines: Digital In 12 (Extension1 – Pin 26 for automatic mode
Digital In 13 (Extension1 – Pin 28) for full supported laser
A transition from low to high switches on, a transition from high to low switches off. This feature can be enabled in the Hardware Configuration, page *Miscellaneous*.

Integration of checkbox in Hardware Configuration (page *Miscellaneous*) to enable/disable automatic IO initialization when switching *Automatic Mode* on.

Tile size limit decreased to 1.0mm for all modes.

Intergation in Parameter Wizard: Selection and variation of *jump speed* possible.

3D support: Now if a job is executed in 3D (Use3D = true) all graphic objects and groups display the z dimension: Z_{min}, Z_{max} and Z-Height. Z-Height is editable and can be used to rescale the objects/groups in z (x,y remain unaffected).

Initialisation error is now displayed in the status bar in red, too (additional to the output window).

New status signal on line DigitalOut 8 (Extension1 connector): ‘Job not aborted’ integrated. If the hardware is fine but the job was aborted by a user interaction or a control node evaluation this signal will not be set after job has finished. Therefore this signal should only be checked after a job execution. That enables a master control to detect e.g. a failure of a vision job evaluation.

Serial number with 0 increment (equals constant text) threw ‘division by zero’-exception. Now it is supported.

Bugfix: Variant selection was wrong if all input selection lines were set.

Bugfix: GraphicsPaths objects were not supported in the pilot laser mode.

Bugfix: If a list interruption control node (vision, motor and serial control node) was inside a group with repetitions, the handling calculation was wrong and some control nodes were mixed up and executed at the wrong place.

Bugfix for filled font text with vertical alignment or changed spacing value:
If a job file was opened the filling was already calculated in the sld file but additional moved during the position calculation of the outline. That yields a shifted filling.

Bugfix: Program crashed when RTC was released and the manual motor control dialog was opened (only when motors were defined).

Bugfix: Program exits if a profile configuration file was corrupt and it couldn’t be run anymore. Now it starts with a default configuration. Maybe it is necessary to close and open the program again to reset the GUI administration.

Bugfix: Starting the parameter wizard with a defined selection in the laser control window prevents the execution.
The selection will now be temporarily changed while the parameter wizard is running. When the wizard finishes a selection update is executed. That will restore the old settings if the pattern is not taken over.
This bug was present for jobs with a variant selection, too.

Bugfix: If only selected objects should be processed, the processing was always in the x,y plane. Now if ‘Use 3D’ is activated in the job node they will be processed in 3D.

Bugfix: For 3D processes the execution of transformed circle (arc) elements were wrong calculated. Because the RTC can only process 2D arcs, they had to be interpolated by polygon trains and there the transformation was lost.
Now it is checked whether the arcs are in an x,y, (z = const)-plane and executed as real arcs. Else the polygon train now uses the transformation.

Bugfix for converting a group to a GraphicSet or GraphicsPaths. There reference objects were not extracted and could cause a program crash. Now the references are replaced by their symbol elements.

Integration of the home jump function for 'Online' tiling group. To avoid 'hot spots' during axis movement between the tiles a home jump can be executed before each control node sequence.

Release 1.2.0.4 (12/14/2015)

Bugfix: Grouped and shifted point elements could not be selected due to a missing transformation calculation.

Bugfix (only versions 1.2.0.1-3): Text objects with repetitions have only been executed once.

Bugfix for start of job without variants: Jobs without variants could only be started by the external start signal if no input signal on Extension1 Digital-In lines 0-7 was present. Now these lines don’t affect the start.

Bugfix for Parameter Wizard: If the Library Explorer was active at wizard start the Job Explorer has not been actualized.

Bugfix: Prevent input of negative values for size (width …). In that case the graphic element was not displayed anymore.

Support of non-regular TrueType fonts (fonts which doesn't support the regular attribute). Now these fonts can be used to create new text. Restriction: If afterwards an attribute is changed to a non-existing font style this will lead to a generic font switch.

Intermediate Release 1.2.0.3 (10/26/2015)

Remote Command #37 – Set Vision System Parameter *SCANalign Jobname* and *Offset*.

Release 1.2.0.2 (10/13/2015)
Bugfix: Set parameter set for objects of one layer has not worked for anonymous individual sets.

The z-focus control node has now selection of absolute or relative movement.
Out of Range for z-values are integrated.

Calculation of bounding box size for infinite small objects (e.g. lines) improved and displayed in view.

Bugfix Parameter Wizard: The restoring of the last settings could fail when in between the laser mode or sky writing activation has changed.

Integration Show/Hide GUI of laserDESK using a task bar icon. New remote command #35 for this function.

Level list will now be cleared for a new file. Until now it was taken over from the program library.
The fonts of the marking library will no more be inserted automatically into new or new opened jobs. That happened if the marking library had text objects using these fonts.

Optional switch in Hardware Configuration – page General: Don't switch off automatic mode if consecutive starts are executed without proper job end detection.

Bugfix: After Bitmap execution the power level was undefined and not reset to the reference power level of the bitmap. The next object was executed with that power.
Workaround: The following object need to have an own power setting different to the bitmap.

If a parameter set is deleted but was applied in the job now a replacement set can be selected or the action can be cancelled.

Change: In the parameter wizard the setting ***distance*** is changed to ***spacing***. Now this value defines the empty space between the marking objects.

Bugfix for symbol reference objects: If they are filled the bounding box calculation and selection could have failed.

Integration remote Command #36 – Set Power Scaling Factor.

The actual zoom factor is now taken over during a profile change.

Improvement of the external stop signal detection in automatic mode. Only one error message will be displayed in the output window even if the stop signal stays.

Release 1.2.0.0 (07/11/2015)
Background image from *SCAN*align®

Log feature with different log levels

Integration of assigning a marking parameter set to all objects of one selected layer.

Bugfix and improvement for 2nd scan head. If only the 2nd scan head was used and in the hardware configuration mirroring was selected, the settings for the 1st scan head were used.
If both scan heads are used they process the same RTC® list commands. If the calibration factors were different this had resulted in a scaling. Now the calibration factor difference will be equalized by adapted scaling factors for head 2.

Integration in 'Options' dialog – page 'View': (De-)Activation of 3D Views to reduce memory usage.

Bugfix: Expand-Command applied to polygons and helices caused a Stack Overflow.

Display of Point Mark Duration corrected for common properties. Now taken over for points in graphic sets and for common properties of groups.

New remote control function: Set marking parameter set for job.
New remote control function: Import vector graphic file
New remote control function: Get execution time.
New remote control function: Get names of marking parameter sets

New feature: 'Center to Origin' as Toolbar button and in menu 'Edit – Position'.

Bugfix: For the vector file import the objects circle, ellipsis, rectangle and arc were imported twice if one had activated ‘Collect to Graphics Paths‘.

Dxf-Import improvement: Support of nested blocks with transformation.

Adaption of SPI Laser Definition File for the G4 RM: Frequency range is now 1 – 500kHz.

The display of the marking movement (sorting) now shows arrows for the marking vectors, too, not only for the jumps.

Bugfix for variant selection: The selection didn’t work if the selection lines did not start at line #0 (DigIn 0).

Bugfix for the graphic view: The filling of reference objects was not displayed at all if the filling lines should be displayed as a full area due to the screen resolution.

Support of X-,Y-Flip settings in the Hardware Configuration for the pilot laser (takes over the scan head settings).

Integration Parameter Wizard

Bugfix: Pilot laser has not executed last variant.

Support of layer information after tiling operation

Bugfix: Tiling of not closed Polygons which need not to be cut created closed polygons (additional lines)

Integration: Refresh background image(s)

Bugfix manual laser control: The laser parameters were not taken over when loading the dialog.

Intermediate Release 1.0.8.18 (4/02/2015)

Bugfix: Arcs with combined start point have shifted end points. This shift was not adapted. That results in wrong calculations of concentric circles (shift error was added).
For arcs with repetition the endpoint was transformed, too. This results in a wrong center and causes elliptical deformations.

Merge – Action: ‘Closed’ - property detection improved.

Intermediate Release 1.0.8.16 (03/03/2015)

For vector file import with scaling: Now the center position is scaled, too. This allows log files (.plt) created by the protocol node to be reimported with scaling factor 4% at exactly the same position.

Bugfix: log-function with intelli*SCAN*® and defined rotation offset in hardware configuration could fail.

Bugfix: 3D dxf Import case-switch for extrusion direction calculation had rounding error.

Tiling:
Improvement: Now for stripes and cylinder mode the minimum tiling size is 1.0mm instead of 10.0mm.
The automatic motor position calculation can now select motor units of [Increment/°] in cylinder mode.
Bugfix: several Bugs of the tiling parameter handling were fixed.
Bugfix: Tracking Wizard may not set end_of_list which causes an execution of a part of the last job.

Release 1.0.8.0 (7/15/2014)
Bugfix: Using Pilot laser profile with home jump has not actualized the actual position. For one closed curve the jump to the start position was missing.

Bugfix: Checking a vario*SCAN* i by the system information caused a program shutdown because of only one connected galvo axis. Now the vario*SCAN* can be connected to scanhead 1 or 2.

The set_trigger4 command is now used to support 3D logging (only when use3D = true set in the job properties). For this feature the vario*SCAN* i has to be connected to scanhead2 x-axis. Other connections are not supported.

Bugfix: Negative LaserOn-Delay for Bitmaps threw an exception when used for calculating default pixel.

Bugfix: For lines the rotation not around the center was wrong calculated since release 1.0.6.1.

Integration of the Russian language for the GUI.

Bugfix: If Chinese language was selected the RTCHandler thread was executed in default language instead.

The remote commands ‘Set Coordinate Transformation’ (#16 for automatic mode and #20 for manual mode) are now scanhead selective.

Bugfix Release 1.0.7.3 (5/14/2014)
Bugfix: Only in 3D GraphicSet - Lines were not executed

Bugfix: In 3D flat Objects with z=0 were executed at the local z-position, not at z=0.

Bugfix: Sky-Writing mode3 used default limit angle (90°) if 0° was defined.

Integration in the „Distribute“-Function: Adapt the vision job offsets in the vision control nodes (selection in dialog).

Bugfix: If arc center was outside marking area RTC®5 has clipped the values -> wrong arcs were executed.

Bugfix: Inclined plane transformation had not used normalized base vectors. That resulted in a scaling.

Bugfix: Exception (Remote control) / Crash (User input) occured, if there was a control element present and the group has 'Type = Outline' and a job parameter is changed (Transformation ..).

Bugfix: During “Wait-for-Encoder” the internal scanner position is adapted to keep the mirrors standing still. To correct the next start position a jump has to be executed. If both positions before and after ‘Wait-for-Encoder’ were the same, no jump_abs command was used and therefore the marking starts at an undefined position resulting in a wrong marking length.

Bugfix: Encoder delay after automatic mode off is now deactivated, else simulated starts would continue working because they are triggered by the last list execution.

Integration: Stepper motor control via RTC®5. Handling is the same as for other motor devices.

Bugfix: The digital input control node could cause a shutdown of the RTCHandler Thread by an exception if the execution lasts longer than 10s.

Integration of support of ‘3DFACE’ - entities for dxf-file import.

Bugfix for Releases 1.0.7.12 and 1.0.7.2: Wizards could cause an RTC5Handler Thread shutdown.

Power value changed from Integer to double to avoid rounding (steps of 0,1V).

Bugfix Release 1.0.7.2 (2/11/2014)
DXF-Import: Calculation from OCS to WCS now normalized.

Improvement: Action Stack for Undo / Redo actions limited to 100. Large amount of actions (especially setting variable text by remote commands) could cause “Memory Exceptions”.

Bugfix (for Versions 1.0.7.x) in manual mode: Mechanism to avoid new list calculation caused crash when a serial control node was present.
Bugfix of Memory Leak: WPF Event Handler for 3D View are connected at program start and on file new/open action even only 2D XY-mode was used. These 3D event handlers caused memory leaks of unmanaged memory.

Bugfix Release 1.0.7.12 (1/23/2014)
Bugfix for Wizards (Calibration, Polygon Delay, Tracking Error), where a marking is executed. The wizards could crash the RTC® Handler thread if no marking was executed before.

Bugfix Release 1.0.7.11 (1/16/2014)
Bugfix for Remote commands 20 and 28: Set Transformations. These transformations were not applied in manual mode under special circumstances due to avoid new list calculations.

Release 1.0.7.1 (1/13/2014)
DLL check changed: laserDESK works only with DLL version 535 and higher to support new and old windows driver of RTC®5, else no initialisation of RTC®5.

Integration HW-Configuration page for SCANalign set-up

Bugfix: Arc with 360° was wrong calculated for editing. Center was shifted and radius divided by 2.
Arc restricted to 360°. On execution larger angles would be clipped into that region (370° -> 10°!)

Bugfix for pilot laser parameter handling: If correction file had wrong reference a program crash occurred when switching to pilot laser profile. Check box for using pilot laser parameters was not supported.

Bugfix Text box: Exceptions thrown because of faulty TrueTypeFonts. These are caught now throughout the program.

Integration in Laser wizard: For laserOn and laser1,2 signals it is now possible to select different active levels.

Bugfix TextBox: If a CR LF was inserted automatically, the input cursor was set wrong and the character sequence was mixed up.

Integration: Combine function can handle arcs now.

Bugfix: Switching between graphic views could shutdown the program or the context menu could not be opened due to mismatched relationships.

FPK time unit resolution increased from 1µs to 1/64µs.
Integration: Remote command 30, execute ASC.

Bugfix GraphicsPath: Start creation via context menu of graphic view as Bezier curve failed. Menu item “Tools – Marking Objects – Graphics Path” hasn’t worked.

Feature: Path filling from inside out selectable.

Bugfix: HW configuration was reset to default when a new job was opened and the temporary settings were cancelled. But the GUI kept the temporary settings (laser button …)

Integration: In manual mode the execution list will be calculated not any more if the job and the HW settings are not changed.

Bugfix: For lists > 0x2000 commands and repetitions > 1 in manual mode the first part of the list was missing at every repetition. Only the last part list was executed. This may has led to a shutdown of the program, too.
Furthermore under very rare conditions (only in manual mode with repetitions and variable data) a part of a list could be executed twice.

Integration: Display of progress bar during job execution for jobs > 10s duration.

Bugfix: Access violation of an element during job execution could happen when variable data was actualized and OnPaint of graphic view was executed (under special rare conditions).

Bugfix Release 1.0.6.2 (5/10/2013)
Integration Sky-Writing Mode 3

Bugfix: Variable objects with individual parameters in manual mode with repetitions could have got wrong parameters when executing the repetitions.

Bugfix: (only for version 1.0.6.1): Mismatch of Box (exact) and BoundingBox for SLPolygonElement and SLGraphicPathElement for objects < 1mm. Box values have been updated by the Zoom BoundingBox values. That had resulted in displaying the size dependent on the zoom factor.

For microscopic elements (< 1mm) zooming adapted (lower limit now 0.001mm). Concerns 'Zoom to Selection' and 'Zoom to all Objects'.

Improvement: Reset of the remote flag SLProcessControl.RM_STATE_SWITCH_AUTOMODE now after download to RTC®5. Until now it was reset after event for list creation but before download. Thus one had to check RM_STATE_LST_CALC, too.

Bugfix: Calculation of (ZoomBounding-)Box corrected.

Improvement: The Default parameter calculation of the delays includes now the skywriting parameters Timelag, Forerun and Overrun.

Bugfix: Reset of sublist administration was wrong.

New RTC5DLL version included into download to support newest window driver version of RTC®5.

Release 1.0.6.1 (3/6/2013)
Bugfix at point marking: Values above 2^32-1 or negative values crashed the program on job execution.

Bugfix: Outline of a font text object with border distance had wrong position after loading the job.

Bugfix: In vector file import dialog “-“ was replaced by “0“ when launching the options dialog. Using ”0” as resolution or scale the import has failed.

Bugfix: If objects are related to a tilted level the 3D transformation was not calculated, neither the transformation of the filling.

DXF-Import improved: Integration of resolution parameter and usage for ellipse, circle and spline import.
Integration of BSpline and NURBS import. Selection in import dialog (NURBS or Bezier)
Bugfix: DXF - BLOCK import hasn’t used rotation angle.
Bugfix: DXF - Ellipse import had only imported not rotated ellipse.

Bugfix: If in the file HardwareConfiguration.sld a COM port was defined which is not available a wrong port was displayed but the defined COM port was internally used. Now “n/a” will be displayed.

Change: DirectMove3D Parameter of set_delay_mode command now set to 1 => linear adaption of z to end point during a jump (releases vario*SCAN*)

Improvement: If a $C0_2$ Laser is selected (laser mode 0), the pulse width parameter is hidden now to prevent interference with power setting.

Bugfix: Pilot laser profile had shut program down when a correction file without calibration factor had been selected.

Bugfix: Release / Acquire remote state change now visible in GUI, too. State could be ambiguous when remote mode was finished.

Important Change:
Remote function mechanism 'job loading' and 'switch automatic mode on' changed, now immediate reply. State query during these actions is possible.

Change: 3D execution doesn't execute a jump back to the focus level anymore. Only for 3D helix in a 2D execution a jump back is inserted.
New: Chinese language GUI

Bugfix: DXF-Import – LWPOLYLINE: Closing path had not used Bulge-parameter.

Bugfix: Some ‚special' fonts (Marlett, Simple Straight …) caused a shut down of the program (since version 1.0.3.16677)

Bugfix: Using the serial communication node with block delimiters set to zero has lead to added zero bytes to the data stream.

Bugfix: Hippo laser COM connection could have been linked wrong sometimes. The laser definition file is corrected to high active values.

Improvement of selection of very small objects (< 1 mm).

Integration of execution time calculation for 3D objects.

Improvement: Point and line elements will display absolute coordinates. No hidden transformation will be there anymore.

Bugfix for parameter set changes: If several short delayed list commands are needed, only the last command was really executed delayed.

Integration of bitmap processing for pulse picker mode using laser2 signals.

Bugfix: Avoid Memory Exception in Microsofts PresentationCore.dll by reducing displayed vectors in 3D.

Bugfix Release 1.0.5.6 (10/16/2012)
Bugfix: Lines were not executed in 3D because some point objects have not supported the z – coordinate.

Bugfix: Execution of arcs with activated 3D crashed the program when they were not related to a defined level (null pointer)

Bugfix: Frequency range was restricted to 307kHz which is only true for raster image processing.

Bugfix in vector file import dialog: When leaving the parameter fields *Height, Width* … with no valid data a 0 was automatically entered. And if a parameter was defined once it could not be reset anymore to use the original file values. Now a "-" can be entered again to define no usage of this value.

Bugfix: Pulse output element was not correctly imported. All job files with this element could not be opened and caused a blocking of laserDESK®.
Improvement: Normal vector (extrusion direction, group codes 210, 220, 230) support for dxf-file import integrated.

Bugfix Release 1.0.5.3 (9/18/2012)

Bugfix: In Hardware Settings – Hardware Devices Page to define axis controller was invisible in standard version.

Bugfix: Hardware Settings were not refreshed when RTC® 5 could not be initialized at startup and later settings were adapted. This has forced a new program start.

Bugfix: Program crash in Demo-Mode, when the windows configuration was reset and immediately switched to another windows program.

Improvement: Vector file import function 'Connect lines' had object limit of 1000. Now the limit is 25000.

Bugfix Release 1.0.5.2 (8/10/2012)

Bugfix: Marking Count for object > 1 and 'Mark only Hatchlines' = true. The marking count was not taken into respect.

Bugfix: Several dialogs hasn't used [user units] but [mm] (if they were in grouped layers) and the repeat dialog used all the time only 2 decimals (caused rounding errors) not the user settings in options.

Bugfix in tiling dialog: When not using 'mm' as user units, the calculation was wrong. Program crashed when using 'mil' as user unit.

Release 1.0.5.1 – New features (8/8/2012)

Integration for tiling function: „Separate in Stripes“ (Tiling in one direction) for marking on rolls or POF.

Integration „Wait_for_Encoder“- control node for POF applications.

Integration tiling mode „None (if possible)“. All elements smaller than the tile will not be cut, but related to one tile (stripe).

Integration of the Aerotech controller support using the ASCII-interface.

Integration 3D-support:
- Marking on an inclined plane
- Import of 3D dxf-Files
- 3D-helix
- Support of z-coordinates in the point tables of the objects
- Display of different graphic views for 3D monitoring in the design profile.
-

Integration SPI-Laser with G4 interface
Integration DPSS-Laser support.

Integration Graphics Paths object: There only the graphics without further parameters are inserted. Usage is selectable inside vector file import. This strongly improves the import -> less time and system resources (problem of memory exception).

Improvement of file import: Support of the ‚closed-flag’ of polygons (dxf only), selection for import: ‘Import closed paths always as area’. Unit for file values selectable, improvement for text import (dxf only).

Parameter *Default-Pixel* has been removed. The grey value 0 in the calibration table has to be defined for ‘no laser output’.

Extension of the polygon properties: Width and height can be edited. Now the polygon can be scaled easily.

Integration point marking until an external signal stops it.
Simple objects with repetitions are now executed using sublists. The time for list creation is strongly reduced there (instead of about 150s for 100,000 repetitions now only 5s).

Circle creation now possible by defining the center and radius (keep CTRL-key pressed)

Bugfixes:
Bugfix: The flipping of coordinates hasn’t worked when only selected objects have been executed.

Bugfix: If a job symbol was replaced by the lib-symbol it was not actualized only after editing.

Bugfix in tiling dialog: Program crashed when overlap was used and tile size has been decreased below 10 times of overlap.

Bugfix: If one had first logged in NOT as administrator and then uses the menu item *log in as…* to log in as administrator, the options dialog gets the page *User and Groups*, but this page was empty.

Bugfix: Program crashed when 'use as default' is executed while a category (e.g. fonts) tag was selected

Bugfix at display the filling of references: Instead of full area no filling was displayed at all.

Bugfix: Switching back from ‘pilot laser profile’ the standby-frequency was lost and all specific laser types using standby mechanism (or lasermode 4) hadn’ t get any frequency trigger signal after switching on. (Fixed already in last Hotfix 1.0.4.402.)

Bugfix: Filling of objects with 180° arcs were wrong.

Bugfix: Display of the filling of symbol references were missing. They were only shown when the marking vectors are displayed.

Bugfix: State of SPI laser was always ‘on’, if no error had occurred.

Bugfix: Pilot laser start button was disabled when a renamed GeneralType laser was selected and used.

Bugfix ‚Repeat on arc’: Radius was casted in integer and number of objects was calculated wrong.

Bugfix Release 1.0.4.4 (3/1/2012)

Bugfix for POF: unsigned parameter of RTC®_clear_fly_overflow gets signed value => program shutdown if a job is executed with activated POF.

Bugfix Release 1.0.4.3 with new revised Help (2/8/2012)

Bugfix: control nodes couldn’t be moved in the job explorer tree.

Bug caused by Microsoft: Sometimes cut paths are wrong and too many small objects are created to define the path. Solution: Install the Microsoft family update for XP:

http://www.microsoft.com/download/en/details.aspx?amp;displaylang=en&id=10006
Install all 3 downloads one after the other in the defined sequence. After installation the file C:\WINDOWS\Microsoft.NET\Framework\v3.0\WPF\wpfgfx_v03000.dll should have version number 3.0.6920.1500 from 26-Sep-2008.

Bugfix: Shutter was not closed at switching off the Automatic mode, but if 'shutter switching on every start' was enabled.
Bugfix: Emergency Stop was not executed if no further command was enqueued in the RTCHandler-Thread. That was only the case for Release 1.0.4.1 and 2.

Bugfix: Remote command 28: Using parameter permanent = false in manual mode the transformation was not reset.

Integration Pulse picker mode and output synchronisation with free running lasers (documentation only on demand)
Intergation x and y flip in Hardware Configuration for permanent mirroring.
Bugfix: Shutteropen-Delay was executed after Shutter was opened. Now Shutter is opening and then Shutteropen-Delay is executed .
Improvement: Job will be opened even if it includes a font which is not installed on the PC.

Bugfix-Release 1.0.4.2 (1/19/2012):
Only in Release 1.0.4.1 the filling of paths with arcs were not possible. Now fixed.

Release 1.0.4.1 (1/18/2012)
Integration: Tiling of virtual working area.
Integration of execution of selected objects only
Integration of a motor control (manual and control node)
Integration Sky-Writing 2
Integration scan head – error checking
Integration tracking error wizard
Integration function to place the scan head in the working field (mode change like Zoom-Mode).
Integration point list sequence defining.
- For open polygons: Reverse sequence
- For closed polygons: Set start point.
- For spiral new parameter: start point outside /inside
Integration Connect - function in Combine - menu item.

Bugfixes in Release 1.0.4.1
Bugfix in manual laser control: Sometimes the power was not recalibrated to analogue or digital output, but used as 100%- value.
Program shutdown could occur if invalid numbers were entered. Now the program takes respect of culture dependent decimal separators.

Bugfix for Digital input control node: If this node was directly behind a marking object (mark-command), the laser stayed on.

Bugfix for variable objects without outline (mark only filling): It could have happened that the outline was executed, too.

Bugfix for filled groups or references: If the parameter was **Only filling = yes**, the outline of the group members were marked, too.

Bugfix POF with rotation: The calibration factor parameter for set_fly_rot was calculated wrong.

Hotfix for Release 1.0.3 (10/7/2011) **Version 1.0.3.16677**
Bugfix: Point object marking time could not be longer than LaserOff-delay. The execution was delayed for the defined time, but the laser was switched off.

Bugfix: Individual wobble frequency parameter was applied wrong.

Improvement of cw laser mode.

Bugfix Laser wizard: The standby parameters were not used.

Bugfixes in Release 1.0.3

Bugfix: Only in version 1.0.2: Variable polygon delay wizard hang up if no marking has been executed before.

Bugfix: Program crashed, when hardware configuration was closed and the selected laser used a serial interface where this com port has been blocked by another program.

Bugfix: The variable polygon delay wizard stored absolute values not the scale factors. Thus the values were larger than 2.0 and were not used.

Bugfix: For very large lists: If RTC® lists were longer than the memory space, the execution could hang up, stop without finishing or partly execute wrong commands.

Bugfix (only in 1.0.2 Releases): Changing the values height / width in the properties of groups or file imports resulted in unpredictable changes. Changing the size with the mouse works.

Bugfix: After every arc a jump command was inserted, if the arc has a transformation. This was just a zero-jump but it was unnecessary.

Integration for time measurement of elliptical arcs included.

Bugfix: The wobble amplitudes check of the global job parameters was wrong. The [mm] parameters were compared to the Bit limits. Therefore the wobble amplitudes could not be lower than 1mm. For individual parameters all is ok.

Bugfix of Remote-command with reply: WaitOne(int) was used. This command is only available with installed SP1-versions of Framework 3.0 or 3.5. Hotfix: Install SP1. Now we are using WaitOne(int, bool). This method is available without SP1.

Bugfix: Analog Out Element was just a tenth of the real value.

Bugfix: Default-Pixel value had wrong range. Instead of 0 to 255 the range was just 0 to MaxIndex-1 of the grey table.

Bugfix: MOF-Rotation center was changed on every hardware configuration change (multiplied by the calibration factor).

Release 1.0.3.31189 (7/4/2011)
Integration Control node 'serial communication'
Integration 2. Scanhead control
Integration 'line font calculation' (center line) from TrueType fonts
Integration '2,5D-Import' – import of files with increasing number and inserting of z-control nodes
At request: SPI-Laser integration (G3-RM series) for testing

BugFix-Release 1.0.2.18188 (from 3/1/2011)
For some system combinations (dependent on PC, OS version, installed software…) a program crash during start up could occur.

POF problem is solved: Basically both encoder inputs were watched. If only one encoder was connected, the system signals an error. Now only the encoder defined in the hardware configuration will be checked.

Bugfix-Release 1.0.2.25711 (from 2/4/2011)

Variable polygon delay wizard improved.
Bugfix: Wrong unit for the limit was used, not the dialog units [µm], but [mm] => test run was almost every time in between the limit.
Workaround for older versions: Use 0,050 instead 50 for the limit.

Bugfix: The laser has not been switched off directly after the point marking. Defined time [µs] has been taken as [ms].

Release 1.0.2.22817 (from 1/31/2011)
Integration of remote control
Integration of pilot laser control and adjustment.
Integration of z-control node for vario*SCAN*
Help systems improved.

Bugfix: If symbols have been resized, the filling and the bounding box have been wrong calculated. The width and height properties always show the original symbol size, not the size of the reference.

Bugfix at ‚import text (from file)' and ‚Serial number': If the property **Reset start index = yes** was set and the text was included in a filled group but has no own filling, the text string was reset correct but the filling has not been recalculated (group filling of the last marking was used).

Bugfix: „File Save after Marking" – function (in Options – General) has only saved the file if one has manually changed the job. Changes during execution (data update) have not launched the saving (e.g. actual serial number or number of executions).

Bugfix for filling:
1) Save filled text and open the job again, then resize -> filling was removed
2) Convert filled ‚Font text' to ‚Vector text' and back had removed filling

Bugfix: If the number of executions was larger than the lines of an import text file the automatic mode was never finished.

Bugfix: If a circle is stretched, elliptical arcs are created. This type conversion was not taken into account, especially for RTC5 cards which are not able to process elliptical arcs.

Bugfix (filling of variants): Only the collecting variants node could be filled, not the individual variant nodes. Workaround for older versions: Create a group inside the variant node and add the filling to the group.

Bugfix: Filled references with outline reduction were marked with the original outline.

Bugfix: Rotated bitmaps used wrong rotation angle.

Bugfix: The check of the pulse width parameter of the job was wrong. This may have lead to overwriting of this job parameter. Individual object parameters were checked right.

Bugfix: Using a line reduction parameter unequal to zero has lead to an outline marking of two times.

Bugfix POF with rotary movement: Rotation center was defined in wrong units -> Program crashed.

Bugfix: If the repetition factor was too large the program crashed because of an OverflowException.

Bugfix: If the Laser system has been restarted a thread was started twice.

Bugfix: Protocol node has used a wrong unit multiplicator (factor 10 less resolution as defined).

Release 1.0.1.26077 from 11/4/2010

Hint (only for this version): Using the Hippo laser, the name of the serial interface in the hardware configuration has to be **COMx**, exactly as the used COM-port. This name is defined in the COM port list of the hardware configuration – page PC-interface.

1/3/2011: Bugfix for Installation: A file called DialogBox_öffnen_dxf_d.jpg in the folder \Help\de\Content\SLDialogs\Import\Images was installed. Using distinct language versions of Windows® the installation crashes because ‚ö' doesn't exist in the character table. New installation created where this file is not present any more.