

**Release Notes****PRECiV 2.1 Release Notes (December 2023) Build 30345**

<b>ID</b>	<b>Title</b>	<b>Description</b>
<b>R-3814</b>	Fix the bug that the AE region cannot be moved after startup	Fix the bug that when the Exposure mode is set to automatic and the application is closed with the region's spot set to other than Full Image, the spot cannot be moved the next time the application is launched.
<b>R-3813</b>	Fix the bug that SZX2-LTTR and SZX2-ILLC are not available in the device list.	The following SZX microscopes are now available for PRECiV: - SZX2-LTTR Tilting Trinocular Tube - SZX2-ILLC10/SZX2-ILLC16 Coaxial Illuminator
<b>R-3812</b>	Update of the charts used in Charts Comparison Materials Solutions	The new chart DVD is available: (ISO 945:2019) (SEP 1572:2019) (ASTM E112-13 (2021)) (DIN 50602:1985)  All chart DVD article codes have been changed due to the switch from Olympus to Evident.
<b>R-3811</b>	Update the Materials Solution Grains Size standards	Affected standards: 1) ASTM E112-13 2) GB/T 6394-2002 3) EN ISO 643:2012 4) JIS G 0551:2013 Are changed to 1) ASTM E112-13 (2021) 2) GB/T 6394-2017 3) EN ISO 643:2020 4) JIS G 0551:2020
<b>R-3810</b>	Scale bar transparency can be set	The scale bar's opacity can be customized to avoid covering important details in the image.

ID	Title	Description
<b>R-3809</b>	Improvements for Neural Network integration	<p>Inference on images with varying magnifications: It is possible to:</p> <ul style="list-style-type: none"> <li>•Apply a network on images with a different pixel spacing than it was trained for.</li> <li>•Know the optimal magnification of the network.</li> <li>•Easily see which magnifications the network can be used on without changing the training configuration/settings.</li> </ul> <p>Link between Count &amp; Measure and used Neural Network It is possible to get a link between the used neural network and the detected objects in Count &amp; Measure.</p> <p>Training Neural Network on sub regions. It is possible to select a smaller area on the image in order to perform training. The background labelling is more prominent</p>
<b>R-3808</b>	New DP75 camera can be installed with PRECiV 2.1	<p>The DP75 camera is supported by PRECiV:</p> <p>Ultra mode: 49.2 MP / 8192 × 6000 pixels            Super High mode: 12.3 MP / 4096 × 3000 pixels            Super High (3CMOS) mode: 12.3 MP / 4096 × 3000 pixels            High mode: 3.1 MP / 2048 × 1500 pixels</p> <p>The IR filter can be inserted or removed from the imaging path. The status is available in the camera device status page.</p> <p>The DP75 cannot be selected in the PRECiV DSX package.</p>

ID	Title	Description
R-3806	Legacy hardware can be selected with a special CSG license	<p>With PRECiV 2.1 we now support legacy hardware (hardware already supported in OLYMPUS Stream).</p> <p>This solution is PV-S-CSG-HW.</p> <p>It allows the connection to:</p> <ul style="list-style-type: none"> <li>* BX-UCB (all motorized components except U-AFA2M / U-AFA1M)</li> <li>* STM7 (nosepiece encoder only)</li> <li>* MX61A/ MX61 / BX61</li> <li>* Prior SZX zoom encoder</li> </ul> <p>Additionally, this solution enables you to control 3rd party motorized stages with PRECiV DSX without using the protocol converter.</p>
R-3805	New tool windows available for the Customized Solutions Group	<p>The CSG team can now adjust the page layout of the CSG tool window.</p> <p>The tool window single position, multiple position, and frame series are available directly.</p>
R-3804	Quick scan EFI mode is available	<p>The user can create EFI/3D images with just one click without defining other parameters beforehand.</p> <p>This function speeds up the acquisition and makes the whole process easier and user-friendly.</p> <p>The system moves the objective lens away from the sample, the starting point should always be the lowest position on the sample.</p>
R-3803	Save Images in POIR format	<p>PRECiV uses the IDA library to read and save POIR files.</p> <p>POIR files can be exported into the 3D Analysis Application for 2D and 3D measurement.</p> <p>POIR files have a limited size of 6k × 6k pixels in 3D data and 20k × 20x pixels in 2D data.</p>
R-3802	New software autofocus algorithm (DSX1000)	<p>The software autofocus algorithm for the DSX1000 in PRECiV DSX is similar to the existing software autofocus method in DSX-BSW.</p>
R-3801	Modifications in 3D surface view	<p>Relative XYZ coordinates are used in 3D surface view</p> <p>Black background color is used by default</p> <p>Changed background color persists over application sessions</p>
R-3800	Integration of DSX1000 motorized optical zoom (DSX1000)	<p>DSX1000 motorized optical zoom is supported by PRECiV DSX.</p> <p>The following zoom steps are available:</p> <p>1x, 1.1x, 1.4x, 1.7x, 2x, 2.5x, 3x, 4x, 5x, 6x, 7x, 8x, 9x, 10x</p> <p>User can define a ROI on a live image and the system calculates the zoom step based on the ROI.</p>

ID	Title	Description
R-3799	PRECiV 2.1 can be installed with Windows 11	All devices supported by PRECiV can be used on Windows 11.
R-3798	Integration of coded lens attachments (DSX1000)	<p>The different DSX lens attachments are recognized by PRECiV DSX:</p> <ul style="list-style-type: none"> <li>* Multiple lens attachments can be configured in the Device Settings dialog</li> <li>* The device settings dialog summarizes the objectives and lens attachments recognized so far, but does not allow the user to edit configurations (e.g., disabled list of objectives).</li> <li>* Currently attached lens attachment is recognized</li> <li>* Lens position is recognized</li> <li>* Based on the combination of lens attachment and lens position, the correct objective is recognized</li> <li>* The objectives supported by the DSX1000 are available in the Device Settings dialog</li> </ul>
R-3797	Basic DSX1000 device integration (DSX1000)	<p>The following devices can be controlled from the PRECiV User Interface:</p> <ul style="list-style-type: none"> <li>* Motorized zoom AS (depth of focus adjustment)</li> <li>* Motorized analyzer/polarizer</li> <li>* Motorized illumination AS (oblique observation, contrast enhancement)</li> <li>* Motorized DIC</li> </ul> <p>The widgets for XY-stage rotation and tilted zoom head are displayed in the Status Area and show the correct status of the devices.</p>
R-3796	Observation modes are supported in DSX1000 (DSX1000)	<p>The observation modes</p> <ul style="list-style-type: none"> <li>- BF</li> <li>- MIX</li> <li>- DF</li> <li>- PO</li> <li>- DIC</li> <li>- OBQ</li> </ul>

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		<p>are available in the PRECiV DSX User Interface.</p>																																																																																										
<p>R- 3795</p>	<p>Multiple camera support</p>	<p>It is possible to define several cameras for one hardware configuration.</p> <p>Switching between cameras is very fast.</p> <p>The following table shows the possible combinations:</p> <table border="1" data-bbox="715 869 1465 1211"> <thead> <tr> <th></th> <th>DP22</th> <th>DP23</th> <th>DP23M</th> <th>DP27</th> <th>DP28</th> <th>DP73</th> <th>DP74</th> <th>DP75</th> </tr> </thead> <tbody> <tr> <td>DP22</td> <td>NOK</td> <td>OK</td> <td>OK</td> <td>NOK</td> <td>OK</td> <td>NOK</td> <td>NOK</td> <td>NOK</td> </tr> <tr> <td>DP23</td> <td>OK</td> <td>OK</td> <td>OK</td> <td>OK</td> <td>OK</td> <td>OK</td> <td>OK</td> <td>OK</td> </tr> <tr> <td>DP23M</td> <td>OK</td> <td>OK</td> <td>OK</td> <td>OK</td> <td>OK</td> <td>OK</td> <td>OK</td> <td>OK</td> </tr> <tr> <td>DP27</td> <td>NOK</td> <td>OK</td> <td>OK</td> <td>NOK</td> <td>OK</td> <td>NOK</td> <td>NOK</td> <td>NOK</td> </tr> <tr> <td>DP28</td> <td>OK</td> <td>OK</td> <td>OK</td> <td>OK</td> <td>OK</td> <td>OK</td> <td>OK</td> <td>OK</td> </tr> <tr> <td>DP73</td> <td>NOK</td> <td>OK</td> <td>OK</td> <td>NOK</td> <td>OK</td> <td>NOK</td> <td>NOK</td> <td>NOK</td> </tr> <tr> <td>DP74</td> <td>NOK</td> <td>OK</td> <td>OK</td> <td>NOK</td> <td>OK</td> <td>NOK</td> <td>NOK</td> <td>NOK</td> </tr> <tr> <td>DP75</td> <td>NOK</td> <td>OK</td> <td>OK</td> <td>NOK</td> <td>OK</td> <td>NOK</td> <td>NOK</td> <td>NOK</td> </tr> <tr> <td>C12741-3</td> <td>OK</td> <td>OK</td> <td>OK</td> <td>OK</td> <td>OK</td> <td>OK</td> <td>OK</td> <td>OK</td> </tr> </tbody> </table>		DP22	DP23	DP23M	DP27	DP28	DP73	DP74	DP75	DP22	NOK	OK	OK	NOK	OK	NOK	NOK	NOK	DP23	OK	OK	OK	OK	OK	OK	OK	OK	DP23M	OK	OK	OK	OK	OK	OK	OK	OK	DP27	NOK	OK	OK	NOK	OK	NOK	NOK	NOK	DP28	OK	OK	OK	OK	OK	OK	OK	OK	DP73	NOK	OK	OK	NOK	OK	NOK	NOK	NOK	DP74	NOK	OK	OK	NOK	OK	NOK	NOK	NOK	DP75	NOK	OK	OK	NOK	OK	NOK	NOK	NOK	C12741-3	OK	OK	OK	OK	OK	OK	OK	OK
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<p>R- 3794</p>	<p>Advanced 3D Measurements with the 3D Analysis Application</p>	<p>It is possible to perform advanced 3D analysis in PRECiV:</p> <ul style="list-style-type: none"> <li>* Implement the sub-group "Advanced 3D Measurement" in the 3D Measurement tab with a button to start advanced 3D measurement or roughness analysis</li> <li>* Selected 3D image (image with height information) is transferred to the 3D Analysis Application in POIR format (the XY calibration and height calibration is transferred as well)</li> <li>* The image can be analyzed with the 3D Analysis Application</li> </ul> <p>It is possible to export one image at the same time to the 3D Analysis Application.</p> <p>PRECiV POIR file format is compatible with OLS51-BSW 3.1.2 and higher.</p>																																																																																										

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R-3793	Adjustment of map image when DSX10-TF or DSX10-RMTS is used (DSX1000)	<p>With PRECiV DSX it is possible to acquire a map image of the sample and change the device status</p> <p>- Tilted frame: Keep map image when the Zoom Head is tilted Keep position list No changes in FOV display and Map image thumbnail</p> <p>- Rotated stage: Delete map image when the stage is rotated (User confirmation requested) Acquisition of a new map image is possible No changes in FOV display Position list is recalculated according to rotation angle</p>
R-3792	Device list adapted to DSX1000 configuration (DSX1000)	<p>In PRECiV DSX it is possible to select pre-defined device configurations:</p> <ul style="list-style-type: none"> <li>- Entry model (DSX10-SZH + DSX10-UF + U-SIC4R)</li> <li>- Tilt model (DSX10-SZH + DSX10-TF + DSX10-MTS)</li> <li>- High-Resolution model (DSX10-UZH + DSX10-UF + DSX10-MTS)</li> <li>- High-End model (DSX10-UZH + DSX10-TF + DSX10-RMTS)</li> <li>- Customized Entry Model (DSX10-SZH + DSX10-CB)</li> <li>- Customized High End Model (DSX10-UZH + DSX10-CB)</li> </ul>
R-3791	Calibration wizard is adapted to DSX1000 specific hardware (DSX1000)	<ul style="list-style-type: none"> <li>* DSX1000 can be calibrated at 0° tilt angle and 0° rotation angle</li> <li>* User is asked to put the system into a 0° state when starting the calibration if the zoom head is tilted or the stage is rotated</li> <li>* Calibration is not started when the zoom head is tilted or stage rotated</li> <li>* DSX1000 can be calibrated correctly for all valid combinations of zoom and objective. The calibration state is shown correctly.</li> </ul>
R-3790	Objectives not supporting PO observation modes are integrated in PRECiV DSX (DSX1000)	<p>The following objective lenses:</p> <ul style="list-style-type: none"> <li>* DSX10-SXLOB 1X</li> <li>* DSX10-SXLOB 3X</li> <li>* DSX10-SXLOB 10X</li> <li>* DSX10-XLOB 3X</li> <li>* MPLFLN 1.25X</li> <li>* MPLFLN 2.5X</li> </ul> <p>use the cross-Nichols settings when used in the DSX1000 to prevent blur and color unevenness.</p>

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R-3789	Limitation of some objective combination on the same lens attachment (DSX1000)	<p>The configuration of the following combinations of UIS2 objectives in the same lens attachment shall be prevented:</p> <table border="1" data-bbox="790 353 1327 517"> <thead> <tr> <th></th> <th>MPLFN1.25X</th> <th>MPLFLN2.5X</th> </tr> </thead> <tbody> <tr> <td>MPLAPON50X</td> <td>NG</td> <td>NG</td> </tr> <tr> <td>MPLFLN50XBDP</td> <td>NG</td> <td>OK</td> </tr> <tr> <td>MPLFLN50XBD</td> <td>NG</td> <td>OK</td> </tr> <tr> <td>LMPLFLN50XBD</td> <td>OK</td> <td>OK</td> </tr> </tbody> </table> <p>Background: The different working distances/dimensions of these objectives could lead to collisions of the objective with the sample when focusing.</p>		MPLFN1.25X	MPLFLN2.5X	MPLAPON50X	NG	NG	MPLFLN50XBDP	NG	OK	MPLFLN50XBD	NG	OK	LMPLFLN50XBD	OK	OK
	MPLFN1.25X	MPLFLN2.5X															
MPLAPON50X	NG	NG															
MPLFLN50XBDP	NG	OK															
MPLFLN50XBD	NG	OK															
LMPLFLN50XBD	OK	OK															
R-3788	New EFI algorithm for all 3D acquisition processes	<p>Integration of the new EFI algorithm in the following acquisition processes:</p> <ul style="list-style-type: none"> <li>* Instant EFI/3D</li> <li>* Quick Scan EFI/3D</li> <li>* Combination of Automatic EFI/3D with Automatic Panorama</li> <li>* Combination of Instant EFI with Instant Panorama</li> <li>* Combination of Instant EFI with Manual Panorama</li> <li>* Automatic EFI/3D images can be acquired with the default snapshot/acquisition process resolution of cameras supported in PRECiV.</li> </ul>															
R-3786	SXLOB accessories (DSX10-POAD and DSX10-DIAD1X10X) status is recorded when saving device status (DSX1000).	<ul style="list-style-type: none"> <li>* The SXLOB objective adapters (DSX10-POAD and DSX10-DIAD1X10X) status is available in the Confirm Status of Manual Devices dialog</li> <li>* The SXLOB objective adapters (DSX10-POAD and DSX10-DIAD1X10X) status is available in the Restore Device Status dialog</li> <li>* The status of the SXLOB adapter is correctly confirmed and restored</li> </ul>															

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R-3785	Adjust acquisition processes when using DSX10-TF and RMTS (DSX1000)	<ul style="list-style-type: none"> <li>* All automatic and manual acquisition processes can be started when the stage is rotated (rotation angle is not equal to 0°)</li> <li>* All automatic and manual acquisition processes can be started when the zoom head is tilted (tilt angle is not equal to 0°)</li> <li>* No changes for the properties of the acquired images needed</li> <li>* No intelligence for scan areas; the stage moves as if the head was not tilted (=&gt; "double" Z-axis move for Panorama and EFI/3D acquisition in case of 90° tilt angle)</li> <li>* In the case that the stage rotation angle is changed when running an automatic or manual acquisition process, the system shall show an error message and stop the process</li> <li>* In the case that the tilt angle is changed while running an automatic or manual acquisition process, the system shall show an error message and stop the process</li> <li>* Exception: During movie acquisition, changing the rotation or tilt angle is allowed</li> </ul>
R-3784	Best Image Function (DSX1000)	<p>The Best Image function in DSX1000 is used for product demonstration and is widely used by our customers.</p> <p><b>Only available for DSX10-UZH zoom head</b></p> <p>Observation conditions in the context of the best image function are:</p> <ul style="list-style-type: none"> <li>* Observation modes (depending on the device configuration)</li> <li>* Other observation conditions:               <ul style="list-style-type: none"> <li>* Illumination settings</li> <li>* Settings of specific devices (aperture stops contrast up, field stop: texture enhancement; DIC slider)</li> <li>* Image enhancement settings (Live HDR)</li> </ul> </li> </ul> <p>Using this functionality the user does not need detailed knowledge about how to set observation modes, illumination conditions, or image enhancement.</p> <p>The best image function enables you to display images acquired with different predefined observation conditions side by side. The user can apply the settings suitable for the sample to the microscope by simply selecting the best image from the set of acquired images.</p> <p>Beside the predefined (factory) conditions, experienced users are able to register their own user-defined conditions.</p> <p>The Best Image function enables:</p>

ID	Title	Description
		<ul style="list-style-type: none"> <li>* User Interface for best image function is available in PRECiV DSX and can be accessed from the Observation tab</li> <li>* The setup installs predefined best image settings (system settings)</li> <li>* The user is able to register and modify user-defined best image settings</li> <li>* An administrator user is able to register and modify best image settings for all users of the system</li> <li>* The user is able to export/import best images settings (transfer to another computer)</li> <li>* The user is able to find the best image for observation by using the available best image settings. The corresponding settings (including the observation mode) are applied to the system</li> <li>* The user is able to save selected images in best image page</li> </ul>
<b>R-3783</b>	Dedicated functions for the DSX1000 camera (DSX1000)	<ul style="list-style-type: none"> <li>- The 3CMOS high-resolution mode is only available for the DSX10-UZH zoom head, not DSX10-SZH.</li> <li>- It is possible to select a target value for Auto Exposure.</li> <li>- The gain value is visualized as ISO sensitivity</li> <li>- The camera supports anti-vibration mode</li> <li>- The square aspect ratio 1:1 is enabled for DSX1000</li> </ul>

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<p>R-3782</p>	<p>DSX10-CSL Integration with PRECiV DSX (DSX1000)</p>	<p>The DSX10-CSL is widely used by customers and sales person for demonstration.</p> <p>The console behavior is already described and all buttons functionalities are fixed.</p> <p>Integration of console functionality:</p> <ul style="list-style-type: none"> <li>* Lighting control depending on the observation mode:               <ul style="list-style-type: none"> <li>* BF: Adjusts the light intensity of the reflected light illumination (current DSX software does nothing when in BF mode)</li> <li>* Oblique: Changes the oblique position</li> <li>* DF: Rotates the segment of the ring-illumination</li> <li>* DIC: Adjusts the DIC prism position</li> <li>* MIX: Adjusts the light intensity of the reflected light illumination</li> <li>* PO: Rotates the analyzer</li> <li>* LED indicators turn ON or OFF depending on the illumination position or the adjusted value.</li> </ul> </li> <li>* DF lighting pattern</li> <li>* Observation method switching               <ul style="list-style-type: none"> <li>* LED indicators turn ON or OFF depending on the active observation mode</li> </ul> </li> <li>* Brightness (adjusts target value of exposure time)</li> <li>* Define speed of fine focusing. It is currently extremely slow.</li> <li>* Define speed of XY joystick.</li> <li>* LEDs shall work as specified.</li> <li>* The status of the LED indicators shall be synchronized with the status in the software.</li> <li>* Live HDR Enhance Texture / Live HDR Remove Halation shall be activated.</li> </ul>
<p>R-3781</p>	<p>Limit stage movement with DSX10-RMTS when rotated (DSX1000)</p>	<p>It is necessary to restrict stage movement (stage limits) when the DSX10-RMTS is rotated.</p> <p>If stage rotation exceed +/- 20°, the full X,Y stage movement is disabled.</p> <p>if stage rotation is below +/- 20°, the full X,Y stage movement is enabled.</p>

ID	Title	Description
R-3780	Support camera properties in Observation modes (DSX1000)	<p>An observation mode in the context of the DSX1000 is the set of settings of the microscope's device units necessary for the observation of the sample under certain conditions.</p> <p>As a user I want to adjust observation settings relevant to the selected observation mode only.</p> <p>The settings of device units that are not relevant for the selected observation mode have fixed settings and cannot be modified.</p>
R-3779	New Software package PRECiV DSX can be selected during setup	<p>The User can select the new package PRECiV DSX when installing PRECiV 2.1.</p> <p>PRECiV DSX is only supporting DSX1000 hardware</p> <ul style="list-style-type: none"> <li>- DSX1000 camera</li> <li>- Motorized stage (DSX10-MTS)</li> <li>- Tilted or Upright frame (DSX10-TF and DSX10-UF)</li> </ul> <p>PRECiV DSX is a main software license</p>
R-3778	PRECiV ISO file size is reduced	The new PRECiV 2.1 setup is 5.4 GB

ID	Title	Description
R-3777	Save and Restore Device Status (to and from a File)	<p>Save device status to file</p> <p>The system provides functionality to save the status of camera and device properties to a file. The same properties that are saved with the image can be saved also to file, e.g.</p> <ul style="list-style-type: none"> <li>* Observation mode               <ul style="list-style-type: none"> <li>* If selected the states of fixed device and camera properties are also saved</li> </ul> </li> <li>* Device status               <ul style="list-style-type: none"> <li>* Objective magnification</li> <li>* Zoom magnification (manual zoom/magnification changer, motorized zoom of DSX1000)</li> <li>* Illumination (on/off/intensity)</li> <li>* Ring illumination (state, segment, rotation angle, intensity)</li> <li>* Status of other devices (settings that are currently saved with the image)</li> </ul> </li> <li>* Camera status               <ul style="list-style-type: none"> <li>* Camera settings that are currently saved with the image</li> </ul> </li> <li>* Image enhancement               <ul style="list-style-type: none"> <li>* Off</li> <li>* HDR with settings (Automatically/Manually)</li> <li>* Live HDR with settings</li> <li>* WiDER with settings</li> <li>* Halation removal with settings</li> </ul> </li> </ul> <p>Restore device status from file</p> <p>The system provides functionality to load the status of camera and device properties from a file. The system sets the camera and device properties according to the settings in the file.</p> <p>The command "Restore Device Status from File" is macro recordable to fulfill requests the set a defined overall camera/device status:</p>