

EOSTATE PowderBed Edition 11.23 (2.6)

Supported machines

- EOS M 290
- EOS M 300-4
- EOS M 400-4
- EOS P 500
- EOS M 290-2

Overview of program versions

Software	Edition 05.23	Edition 11.23
EOSTATE PowderBed Service	2.5.235	2.6.143
EOSTATE PowderBed Client	2.5.235	2.6.143
EOSTATE PowderBed Health Service	2.5.235	2.6.143
EOSTATE PowderBed Database Schema	2.6.1.1	2.7.1.3
EOSTATE PowderBed Service Tools	2.5.235	2.6.143
IDS Driver (Camera)	4.92.2	4.92.2
IDS Peak Driver (Camera)	-	2.2.0.0
Basler Driver (Camera)	-	7.3.0
WIBu Codemeter Runtime	7.51.5429.500	7.60.5625.503
Win IoT Image	3.4.0.0	3.5.1.0

Version 2.6.143

General Information

- EOSTATE PowderBed Edition 11.23 is compatible to all other EOS software products of Edition 11.23. The Client software is not downwards compatible to PowderBed software of prior editions.
- After the Update PowderBed Imaging is available on all systems because the license check on the machine has been removed with EOSTATE PowderBed 2.5.
- EOSTATE PowderBed has been tested and is released for Windows 10.
- All layer heights (given in millimeters) indicated in the EOSTATE PowderBed client relate to the complete building task. The layer height displayed in the user interface on the machine, however, relates to the building process. Therefore, if a building process is not started in the first layer, the building height displayed by EOSTATE PowderBed is different to the building height displayed on the machine. In comparison, the layer number relates to the building process.
- Simultaneous access to acquired job data by several processes (e.g. several instances of the EOSTATE PowderBed client) is not supported.
- The deletion of a building task during data acquisition will result in undefined behavior and is not supported.
- The acquisition of building processes with single exposures and/or single recoatings undertaken manually during the building process is not supported.
- The image shown in the client always refers to the layer height after recoating. Therefore, the PowderBed Client does not show an image for layer height 0,00 mm.

Important Note

- Please check the Release Notes thoroughly. Since Edition 05.23 we replaced our database and are using SQLite instead of DB2. This has several implications on the software. Details can be found below, in the section "new functions". Be aware, that from Edition 11.23 the DB2-database will not be migrated anymore! All data in the monitoring database will be deleted. It is necessary to save all monitoring job data and other relevant data before the update. The monitoring jobs can be imported afterwards in the offline use case.
- All EOS software applications, except for the machine software, can now be operated via soft licensing. With soft licensing, the product licenses are no longer stored on a USB dongle, but in a protected file that is bound to the computer hardware. The possibility of operating the software with hardware dongles remains. Soft licensing offers advantages especially when operating virtualized license servers, because the USB hardware does not have to be redirected to a virtual guest system. Migration of licenses from hardware dongles to a soft-license container is possible, but involves effort on the part of both the user and EOS, as well as additional costs. Regardless of whether software is operated with a hardware dongle or with soft licensing, EOS strongly recommends operating a license server that floats the licenses to arbitrary workstations. EOS expressly advises against assigning licenses to different license containers located on personal workstations!
- All components of EOSTATE PowderBed must be updated at the same time and be on the same version.
- The exposure time for the PowderBed images is migrated automatically from previous editions when updating to EOSTATE PowderBed 2.6.143.
- Information regarding the required ports can be found in the latest version of the EOS Industrial Cybersecurity Guide.

Solved Items

- Item 195396: In some cases, when a job was being imported while also a job was being built at the same time, in the operator role the display of the images of the two jobs might not have worked as expected. However, the storage of the data and all the other functions of the monitoring software regarding data acquisition were not affected by this. Now, the images are displayed correctly.

New Functions

- Item 175127: The installer of the EOSTATE PowderBed Client no longer installs the DB2 runtime client. With the switch to the SQLite Database system, this is no longer necessary.
- Item 186364: The new PowderBed camera on the EOS P 500 SLS is now supported.
- Item 196978: For the EOS P 500 SLS the geometric correction for the PowderBed images is no longer supported. The images now show the full view of the PowderBed camera and are no longer restricted to the build platform.

Known Issues

- Item 128259: The live view in the operator role only shows the live image, when "live mode" is selected. When selecting a layer that is already finished, no live image is shown in the channel "live image".
- Item 185587: In rare cases USB transfer errors can occur with the PowderBed system, which can then lead to the loss of several PowderBed images during a build job. In most cases deactivating USB 3 and using USB 2 in the BIOS of the machine IPC will solve this issue.
- Item 194564: Floating point values are not displayed in the Storage Management tool in the Client software. If a floating point value is entered the value is stored and applied correctly but it's not going to be displayed. If an integral number is entered the value is displayed correctly.
- Item 195029: In rare cases, after the deletion of a job, the according message in the Event Log is stored and displayed twice. However, the deletion of the job itself is not affected by this.



- Item 195672: The export of videos in the format .wmv does not work.
- Item 196391: If the monitoring system is disabled at the machine during a build job, the notification in the monitoring event log does not show the corresponding JobID and layer height.

EOSTATE PowderBed Edition 05.23 (2.5)

Supported machines

- EOS M 290
- EOS M 300-4
- EOS M 400
- EOS M 400-4
- EOS P 500

Overview of program versions

Software	Edition 11.22	Edition 05.23
EOSTATE PowderBed Service	2.4.155	2.5.235
EOSTATE PowderBed Client	2.4.155	2.5.235
EOSTATE PowderBed Health Service	2.4.155	2.5.235
EOSTATE PowderBed Database Schema	2.5.1.1	2.6.1.1
EOSTATE PowderBed Service Tools	2.4.155	2.5.235
IDS Driver (Camera)	4.92.2	4.92.2
WIBu Codemeter Runtime	7.40.4990.500	7.51.5429.500

Version 2.5.235

General Information

- EOSTATE PowderBed Edition 05.23 is compatible to all other EOS software products of Edition 05.23. The Client software is not downwards compatible to PowderBed software of prior editions.
- After the Update PowderBed Imaging is available on all systems because the license check on the machine has been removed with EOSTATE PowderBed 2.5.
- EOSTATE PowderBed has been tested and is released for Windows 10.
- All layer heights (given in millimeters) indicated in the EOSTATE PowderBed client relate to the complete building task. The layer height displayed in the user interface on the machine, however, relates to the building process. Therefore, if a building process is not started in the first layer, the building height displayed by EOSTATE PowderBed is different to the building height displayed on the machine. In comparison, the layer number relates to the building process.
- Simultaneous access to acquired job data by several processes (e.g. several instances of the EOSTATE PowderBed client) is not supported.
- The deletion of a building task during data acquisition will result in undefined behavior and is not supported.
- The acquisition of building processes with single exposures and/or single recoatings undertaken manually during the building process is not supported.
- The image shown in the client always refers to the layer height after recoating. Therefore, the PowderBed Client does not show an image for layer height 0,00 mm.

Important Note

- Please check the Release Notes thoroughly. We replaced our database and are now using SQLite instead of DB2. This has several implications on the software. Details can be found below in the section "new functions". Be aware, that the monitoring job data (images, analysis results and so on) will not be migrated. It is necessary to backup all monitoring jobs via export prior to the update. Otherwise the job data will be lost. The monitoring jobs can be imported afterwards in the offline use case.
- All EOS software applications, except for the machine software, can now be operated via soft licensing. With soft licensing, the product licenses are no longer stored on a USB dongle, but in a protected file that is bound to the computer hardware. The possibility of operating the software with hardware dongles remains. Soft licensing offers advantages especially when operating virtualized license servers, because the USB hardware does not have to be redirected to a virtual guest system. Migration of licenses from hardware dongles to a soft-license container is possible, but involves effort on the part of both the user and EOS, as well as additional costs. Regardless of whether software is operated with a hardware dongle or with soft licensing, EOS strongly recommends operating a license server that floats the licenses to arbitrary workstations. EOS expressly advises against assigning licenses to different license containers located on personal workstations!
- All components of EOSTATE PowderBed must be updated at the same time and be on the same version.
- The exposure time for the PowderBed images is migrated automatically from previous editions when updating to EOSTATE PowderBed 2.5.235.
- Information regarding the required ports can be found in the latest version of the EOS Industrial Cybersecurity Guide.

Solved Items

- Item 182831: In most cases, when the first job was started after a restart of the machine, the machine showed the error message 170-12, stating that the synchronization with EOSYSTEM had failed. In addition to that the first image of the job could not be stored in very rare cases. Besides that, the image acquisition was not affected and the monitoring system was fully operational. Now this is fixed and the PowderBed system has no more errors after the restart of the machine.
- Item 194384: In very rare cases it was possible that the 'automatic job delete' did not follow the FIFO principle to delete jobs and therefore sometimes even deleted the Job that was currently being built. To prevent this behaviour in the future the criterion that is used to determine the oldest job has been changed to make the automatic job delete more robust. In addition another function has been implemented that explicitly prevents the deletion of a job that is currently being built.

New Functions

- Item 167146: Monitoring jobs that have been exported with a SW version from an Edition older than Edition 05.20 cannot be imported. To import them in a database of Edition 05.23 they have to be imported to Edition 11.22 first and then the export of the same job from Edition 11.22 can be imported with Edition 05.23. It is no longer possible to restore database backups with a backup version 001. Starting with Edition 11.23 it will only be possible to restore database backups of SQLite databases. The job lists shown in the client tools are now sorted based on the date the job was added to the database.
- Item 167147: The DB2 database is replaced by a SQLite database. Therefore, the DB2 server is no longer required. The Monitoring database is now split in a 'job database' per job containing all the images, analysis results and so on and one system database containing all the system data like the corrections.
- Item 167150: During the update procedure of the monitoring system only a part of the database is migrated. All existing jobs are deleted during the migration of the database. However, the system data (e.g. analysis profiles and geometric corrections) will be migrated to the new monitoring 'system DB'. If the monitoring data of the jobs (job data like images, part statistics, analysis results and so on) has to be available after the migration, the jobs have to be exported prior to the update, respectively prior to the database migration which is part of the update procedure. The exported jobs can then later be imported in a normal 'offline use case'.



- Item 174102: In the Remote Use Case, when a Client is connected to a machine, the Si-number of the machine is now stored. Therefore it is no longer necessary to re-enter the Si-number when connecting with the same machine at a later point in time.
- Item 175577: The remote export and the import of monitoring jobfiles is now up to 50 % faster.
- Item 185144: At the job start, and prior to the first laser exposure, EOSYSTEM waits for a confirmation from the monitoring system that the monitoring system is fully operational. If monitoring is not fully operational the build process is stopped and the respective monitoring system can be deactivated to restart the job or the monitoring system has to be fixed before the job can be restarted.
- Item 185547: During the software update of the machine PowderBed and its software components are automatically updated. All the job data (incl. images) is deleted, the system information is migrated to the PowderBed system DB and the DB2 server is automatically uninstalled.
- Item 188064: The Monitoring Client Software can now be started without any special license. License 1, which is available on every dongle from EOS, is the only license that is required to start the Monitoring Client.

Known Issues

- Item 128259: The live view in the operator role only shows the live image, when "live mode" is selected. When selecting a layer that is already finished, no live image is shown in the channel "live image".
- Item 185587: In rare cases USB transfer errors can occur with the PowderBed system, which can then lead to the loss of several PowderBed images during a build job. In most cases deactivating USB 3 and using USB 2 in the BIOS of the machine IPC will solve this issue.
- Item 194564: Floating point values are not displayed in the Storage Management tool in the Client software. If a floating point value is entered the value is stored and applied correctly but it's not going to be displayed. If an integral number is entered the value is displayed correctly.
- Item 195029: In rare cases, after the deletion of a job, the according message in the Event Log is stored and displayed twice. However, the deletion of the job itself is not affected by this.
- Item 195672: The export of videos in the format .wmv does not work.

Version 2.4.155

General Information

- EOSTATE PowderBed Edition 11.22 is compatible to all other EOS software products of Edition 11.22. The Client software is not downwards compatible to PowderBed software of prior editions.
- EOSTATE PowderBed has been tested and is released for Windows 10.
- All layer heights (given in millimeters) indicated in the EOSTATE PowderBed client relate to the complete building task. The layer height displayed in the user interface on the machine, however, relates to the building process. Therefore, if a building process is not started in the first layer, the building height displayed by EOSTATE PowderBed is different to the building height displayed on the machine. In comparison, the layer number relates to the building process.
- Simultaneous access to acquired job data by several processes (e.g. several instances of the EOSTATE PowderBed client) is not supported.
- The deletion of a building task during data acquisition will result in undefined behavior and is not supported.
- The acquisition of building processes with single exposures and/or single recoatings undertaken manually during the building process is not supported.
- The image shown in the client always refers to the layer height after recoating. Therefore, the PowderBed Client does not show an image for layer height 0,00 mm.

Important Note

- All components of EOSTATE PowderBed must be updated at the same time and be on the same version.
- The exposure time for the PowderBed images is taken over automatically from previous editions when updating to EOSTATE PowderBed 2.4.155.
- Information regarding the required ports can be found in the latest version of the EOS Industrial Cybersecurity Guide.

Solved Items

- Item 165641: In some cases, it was possible that a notification was shown twice in the Event Log. This is now fixed. In these cases notifications are only shown once in the event log.

New Functions

- Item 84528: It is now possible to use an automatic job delete for old monitoring jobs. If this feature is activated, the oldest job is deleted automatically if the storage capacity runs low to ensure the proper acquisition of the job that is currently being built. The feature has to be activated after the Software update to Edition 11.22. The automatic job delete starts as soon as the feature is activated if the storage limit is exceeded. More details regarding this feature can be found in the software manual.
- Item 158715 After sensor errors, the camera is re-initialized and tries to restart image recording. Until now, the camera stopped image acquisition after a sensor error.

Known Issues

- Item 128259: The live view in the operator role only shows the live image, when "live mode" is selected. When selecting a layer that is already finished, no live image is shown in the channel "live image".
- Item 182831: In most cases, when the first job is started after a restart of the machine, the machine will show the error message 170-12, stating that the synchronization with EOSYSTEM has failed. In addition to that the first image of the job cannot be stored in very rare cases. Besides that, the image acquisition is not affected and the monitoring system is fully operational.
- Item 185587: In rare cases USB transfer errors can occur with the PowderBed system, which can then lead to the loss of several PowderBed images during a build job. In most cases deactivating USB 3 and using USB 2 in the BIOS of the machine IPC will solve this issue.

Version 2.3.194

General Information

- EOSTATE PowderBed Edition 05.22 is compatible to all other EOS software products of Edition 05.22. The Client software is not downwards compatible to PowderBed software of prior editions.
- EOSTATE PowderBed has been tested and is released for Windows 10.
- All layer heights (given in millimeters) indicated in the EOSTATE PowderBed client relate to the complete building task. The layer height displayed in the user interface on the machine, however, relates to the building process. Therefore, if a building process is not started in the first layer, the building height displayed by EOSTATE PowderBed is different to the building height displayed on the machine. In comparison, the layer number relates to the building process.
- Simultaneous access to acquired job data by several processes (e.g. several instances of the EOSTATE PowderBed client) is not supported.
- The deletion of a building task during data acquisition will result in undefined behavior and is not supported.
- The acquisition of building processes with single exposures and/or single recoatings undertaken manually during the building process is not supported.
- The image shown in the client always refers to the layer height after recoating. Therefore, the PowderBed Client does not show an image for layer height 0,00 mm.

Important Note

- All components of EOSTATE PowderBed must be updated at the same time and be on the same version.
- The exposure time for the PowderBed images is taken over automatically from previous editions when updating to EOSTATE PowderBed 2.3.194.
- Information regarding the required ports can be found in the latest version of the EOS Industrial Cybersecurity Guide.

Solved Items

- Item 153190: Starting the PowderBed Client 2.2.283 took more time (several seconds) than in previous versions. Now the application starts as fast as before.
- Item 159390: For jobs that were not started with the first layer the layer number in the slider was not displayed correctly. The layer number for exported images however was correct. Now the layer number is displayed correctly in the layer slider, too.

New Functions

- Item 140405: Now there is a text box in the layer slider that allows going directly to a certain layer number.
- Item 150046/160765: The file names of the exported images are now the same regardless of whether the export tool or the "right-click" in the viewport channel has been used. The filenames of the images have also been adapted to always have five digits for the layer number.

Known Issues

- Item 128259: The live view in the operator role only shows the live image, when "live mode" is selected. When selecting a layer that is already finished, no live image is shown in the channel "live image".
- Item 165641: In some cases, it is possible that a notification is shown twice in the Event Log. This does not affect the functionality of the software.

Version 2.2.283

General Information

- EOSTATE PowderBed Edition 11.21 is compatible to all other EOS software products of Edition 11.21. The Client software is not downwards compatible to PowderBed software of prior editions.
- EOSTATE PowderBed has been tested and is released for Windows 10.
- All layer heights (given in millimeters) indicated in the EOSTATE PowderBed client relate to the complete building task. The layer height displayed in the user interface on the machine, however, relates to the building process. Therefore, if a building process is not started in the first layer, the building height displayed by EOSTATE PowderBed is different to the building height displayed on the machine. In comparison, the layer number relates to the building process.
- Simultaneous access to acquired job data by several processes (e.g. several instances of the EOSTATE PowderBed client) is not supported.
- The deletion of a building task during data acquisition will result in undefined behavior and is not supported.
- The acquisition of building processes with single exposures and/or single recoatings undertaken manually during the building process is not supported.
- The image shown in the client always refers to the layer height after recoating. Therefore, the PowderBed Client does not show an image for layer height 0,00 mm.

Important Note

- All components of EOSTATE PowderBed must be updated at the same time and be on the same version.
- The exposure time for the PowderBed images is taken over automatically from previous editions when updating to EOSTATE PowderBed 2.2.283.
- Information regarding the required ports can be found in the latest version of the EOS Industrial Cybersecurity Guide.

New Functions

- Item 60524: The current use case (remote or offline) is shown in the login mask and in the status bar. This way it is more clear to the user if there is an open connection to a machine or if the offline use case is currently being used.
- Item 69251: The layer number in the monitoring software now relates to the layers that are built and not to the layers in the building task. This is relevant when partial jobs are being built. The first exposure of a job that is built now also has the number one in the PowderBed Client. This applies for example for the layer slider, the tiff tags of the images, the name of the image when it is exported. This makes it easier to correlate a PowderBed Image to the according layer of the built job.
- Item 77554: It is now possible to multi-select several jobs and then export, import or delete them all at once. The progress is shown in the status bar and matching notifications can be found in the event log of the client.
- Item 81011: The PowderBed images can now also be exported via the export tool. This allows the export of all the images of one or several jobs as well as the export of the whole job file.
- Item 94873: The tiff images now have a header with several tags e.g. the Job ID, image resolution and many more. More detailed information regarding the header can be found in the software manual.
- Item 114639: The software version of the PowderBed software that recorded the job is now stored in the corresponding job file and is also shown in the "Job Summary" section in the PowderBed Client.
- Item 118287: If the end of a job had been missed due to an internal communication error it was not possible to delete these jobs. In this case it is now possible to delete the job afterwards (at the latest when a new job has been built).
- Item 121790, 137163: The event log now also shows a notification if PowderBed was activated or de-activated at the machine and the notifications for pausing and resuming a job were also adapted.
- Item 123868: The viewport-mouse interaction has been improved. More detailed information regarding the new behavior can be found in the software manual.
- Item 138153: In the offline Use Case the customer scripts now also work for Windows domain users.
- Item 150045: The tooltip for the storage LED in the status bar, which is indicating the free storage space, is now updated whenever the free disc space changes by more than 5 % compared to the previous value.

Known Issues

- Item 128259: The live view in the operator role only shows the live image, when "live mode" is selected. When selecting a layer that is already finished, no live image is shown in the channel "live image".
- Item 153190: Starting the PowderBed Client 2.2.283 takes more time (several seconds) than in previous versions.

Version 2.1.306

General Information

- EOSTATE PowderBed Edition 05.21 is compatible to all other EOS software products of Edition 05.21. The Client software is not downwards compatible to PowderBed software of prior editions.
- EOSTATE PowderBed has been tested and is released for Windows 10.

- All layer heights (given in millimeters) indicated in the EOSTATE PowderBed client relate to the complete building task. The layer height displayed in the user interface on the machine, however, relates to the building process. Therefore, if a building process is not started in the first layer, the building height displayed by EOSTATE PowderBed is different to the building height displayed on the machine.
- Simultaneous access to acquired job data by several processes (e.g. several instances of the EOSTATE PowderBed client) is not supported.
- The deletion of a building task during data acquisition will result in undefined behavior and is not supported.
- The acquisition of building processes with single exposures and/or single recoatings undertaken manually during the building process is not supported.
- The image shown in the client always refers to the layer height after recoating. Therefore, the PowderBed Client does not show an image for layer height 0,00 mm.

Important Note

- All components of EOSTATE PowderBed must be updated at the same time and be on the same version.
- The exposure time for the PowderBed images is taken over automatically from previous editions when updating to EOSTATE PowderBed 2.1.306.
- For Details regarding the changes compared to PowderBed 1.4 see the "Important Note" section below for the corresponding version.
- Information regarding the required ports can be found in the latest version of the EOS Industrial Cybersecurity Guide.

Solved Items

- Item 122057: In rare cases the exported video file showed an error message stating that the index of the video was damaged or broken. Now the exported video file contains the correct index.
- Item 122459: The maximum exposure time for the PowderBed images is approximately 110 ms. When trying to change the exposure time by entering a value above 110 ms, the value was not stored and the exposure time did not change at all. Now a user message is displayed in this case, stating that the value will not be stored.
- Item 124377: For the EOS M 300-4 the PowderBed Images were rotated by 180° degrees. Now the images are oriented in a way, that the bottom edge of the image is facing the door of the machine.
- Item 125826: Cancelling a job import or a job deletion still lead to an event stating that the job import or the job deletion, respectively, had been successful. Now in this case, no event is shown in the event log.
- Item 126020: In rare cases date and time were not shown correctly in all tools that show a list of jobs in the client. Now the tools show the date and time when the data acquisition started.
- Item 126114: The red warning sign and the number for critical events in the status bar was affected by events that had already been acknowledged, when re-opening the event log. Now acknowledged events no longer affect the number of events and the red triangle when re-opening the event log.
- Item 136820: When using the button for the automatic exposure time calculation it was possible that the iterative calculation for the exposure time did not reach the optimum. Now the automatic exposure time calculation only stops if the optimum has been found.

New Functions

- Item 110093: Several improvements for the Eventhandling are now available. The "LEDs" in the status bar are updated more often (e.g. on job end). LEDs switch back to a green status during a job if the error causing the red/orange LED no longer exists (e.g. if the connection to the machine is re-established the "Service-LED" goes back to a green status). Events for the Job-Start and the Job-End are now shown in the Eventlog. It is now possible to acknowledge all selected events at once.
- Item 112297: It is no longer necessary to install a separate video codec to use the video export. The videos can now be exported either in the file format *.mp4 or *.wmv.
- Item 114100: Jobs can now be loaded/imported/exported/deleted via double-clicking the corresponding entry in the list of jobs.
- Item 118911: Starting with PowderBed 2.1.306 it is now possible to install the Client software in parallel to prior software versions. The PowderBed Client 2.1.306 can now be installed in parallel to the PowderBed Client of Edition 11.20. More detailed information can be found in the software manual.

Known Issues

- Item 128259: The live view in the operator role only shows the live image, when "live mode" is selected. When selecting a layer that is already finished, no live image is shown in the channel "live image".

Version 2.1.232 – Edition 11.20: EOS P 500 only

General Information

- The new software EOSTATE PowderBed 2.1.232 and the corresponding components fully replace the PowderBed Software 1.4.8 and the PowderBed Plug-In of EOSTATE Base. The new software EOSTATE PowderBed 2.1.232 is completely independent of Version 1.4.8.
- EOSTATE PowderBed 2.1.232 is significantly different compared to EOSTATE PowderBed 1.4.8 and the EOSTATE Base PowderBed Plug-In regarding graphical user interface and usage. However, basic functionality is the same. Details regarding changes can be found in the section "New Functions" and in "Important Note".
- EOSTATE PowderBed Edition 11.20 is compatible to all other EOS software products of Edition 11.20. The Client software is not downwards compatible to PowderBed software of prior editions.
- EOSTATE PowderBed has been tested and is released for Windows 10.
- All layer heights (given in millimeters) indicated in the EOSTATE PowderBed client relate to the complete building task. The layer height displayed in the user interface on the machine, however, relates to the building process. Therefore, if a building process is not started in the first layer, the building height displayed by EOSTATE PowderBed is different to the building height displayed on the machine.
- Simultaneous access to acquired job data by several processes (e.g. several instances of the EOSTATE PowderBed client) is not supported.
- The deletion of a building task during data acquisition will result in undefined behavior and is not supported.
- The acquisition of building processes with single exposures and/or single recoatings undertaken manually during the building process is not supported.
- The image shown in the client always refers to the layer height after recoating. Therefore, the PowderBed Client does not show an image for layer height 0,00 mm.

Important Note

- All components of EOSTATE PowderBed must be updated at the same time and be on the same version.
- The PowderBed camera is now run in "freerun"-mode, to support the live view. This changes the communication from EOSTATE PowderBed to the machine software during image acquisition. Therefore, the time necessary for image acquisition varies up to approximately 100 ms, according to whether the image acquisition got triggered at the beginning or the end of a frame. However, the overall time for the image acquisition for all layers of a job compared to EOSTATE PowderBed remains approximately the same.
- With Edition 11.20 only one image per layer is stored, the image before recoating.
- Due to the heaters in the process chamber, the brightness of the live view varies substantially.
- The exposure time for the PowderBed images is taken over automatically from PowderBed 1.4 when updating to EOSTATE PowderBed 2.1.232.
- The PowderBed images are no longer stored in the machine database starting with EOSTATE PowderBed 2.1.232. They are stored on the hard drive of the machine IPC and can be exported using the EOSTATE PowderBed Client 2.1.232.
- Unlike in previous versions, PowderBed images are no longer deleted automatically. The PowderBed images have to be deleted regularly. Images of jobs can be deleted using the EOSTATE PowderBed Client. A warning message is shown at the machine display and in the EOSTATE PowderBed Client if a certain limit for remaining storage space is exceeded. If higher limit is exceeded, the image acquisition is stopped. Details regarding this topic can be found in the manual.
- The image is now oriented in a way, that the bottom edge of the image is facing the door of the machine.
- The PowderBed images are not migrated when updating to Edition 11.20. If the images need to be available in the future, they have to be exported and stored prior to the update installation.
- The exposure time of the PowderBed images is now longer available in the PowderBed software.

New Functions

- Item 84529: The user can now change the exposure time of the PowderBed images during a build job.
- Item 84538: The PowderBed images are now being stored uncompressed and can be exported using the EOSTATE PowderBed Client.
- Item 84569: The user can now use the EOSTATE PowderBed Client to watch the build process chamber live using the PowderBed camera.
- Item 109620: PowderBed images can be exported for (AfterRecoating and AfterExposure) as .avi video with 30 fps.
- Item 110092: The EOSTATE PowderBed Client gives you the possibility to check events that occurred during, before and after a build job. These events include e.g. frame loss, exceeding the storage capacity and many more. More details regarding this feature can be found in the manual. The most important events are also shown as pop-ups at the machine display.
- Item 112742: The naming of the exported PowderBed images was changed. It now includes JobID, layer number, layer height and the channel (AfterRecoating or AfterExposure).

Known Issues

- Item 122057: In rare cases the exported video file might show an error message stating that the index of the video is damaged or broken. It is still possible to play the video.
- Item 122459: The maximum exposure time for the PowderBed images is approximately 110 ms. When trying to change the exposure time by entering a value above 110 ms, the value is not stored and the exposure time does not change at all.



- Item 125826: Cancelling a job import or a job deletion still leads to an event stating that the job import or the job deletion, respectively, has been successful.
- Item 126020: In rare cases date and time are not shown correctly in all tools that show a list of jobs in the client.
- Item 128259: The live view in the operator role only shows the live image, when "live mode" is selected. When selecting a layer that is already finished, no live image is shown in the channel "live image".

Version 2.0.645 – Edition 11.20: EOS M 290, EOS M 400/M 400-4, EOS M300-4

General Information

- The new software EOSTATE PowderBed 2.0.645 and the corresponding components fully replace the PowderBed Software 1.4.8 and the PowderBed Plug-In of EOSTATE Base. The new software EOSTATE PowderBed 2.0.645 is completely independent of Version 1.4.8.
- EOSTATE PowderBed 2.0.645 is significantly different compared to EOSTATE PowderBed 1.4.8 and the EOSTATE Base PowderBed Plug-In regarding graphical user interface and usage. However, basic functionality is the same. Details regarding changes can be found in the section "New Functions" and in "Important Note".
- EOSTATE PowderBed Edition 11.20 is compatible to all other EOS software products of Edition 11.20. The Client software is not downwards compatible to PowderBed software of prior editions.
- EOSTATE PowderBed has been tested and is released for Windows 10.
- All layer heights (given in millimeters) indicated in the EOSTATE PowderBed client relate to the complete building task. The layer height displayed in the user interface on the machine, however, relates to the building process. Therefore, if a building process is not started in the first layer, the building height displayed by EOSTATE PowderBed is different to the building height displayed on the machine.
- Simultaneous access to acquired job data by several processes (e.g. several instances of the EOSTATE PowderBed client) is not supported.
- The deletion of a building task during data acquisition will result in undefined behavior and is not supported.
- The acquisition of building processes with single exposures and/or single recoatings undertaken manually during the building process is not supported.
- The image shown in the client always refers to the layer height after recoating. Therefore, the PowderBed Client does not show an image for layer height 0,00 mm.

Important Note

- All components of EOSTATE PowderBed must be updated at the same time and be on the same version.
- The PowderBed camera is now run in "freerun"-mode, to support the live view. This changes the communication from EOSTATE PowderBed to the machine software during image acquisition. Therefore, the time necessary for image acquisition varies up to approximately 100 ms, according to whether the image acquisition got triggered at the beginning or the end of a frame. However, the overall time for the image acquisition for all layers of a job compared to EOSTATE PowderBed remains approximately the same.
- The exposure time for the PowderBed images is taken over automatically from PowderBed 1.4 when updating to EOSTATE PowderBed 2.0.645.
- The PowderBed images are no longer stored in the machine database starting with EOSTATE PowderBed 2.0.645. They are stored on the hard drive of the machine IPC and can be exported using the EOSTATE PowderBed Client 2.0.645.
- Unlike in previous versions, PowderBed images are no longer deleted automatically. The PowderBed images have to be deleted regularly. Images of jobs can be deleted using the EOSTATE PowderBed Client. 1000 images require approximately 2 GB of storage space. A warning message is shown at the machine display and in the EOSTATE PowderBed Client if a certain limit for remaining storage space is exceeded. If higher limit is exceeded, the image acquisition is stopped. Details regarding this topic can be found in the manual.
- The image is now oriented in a way, that the bottom edge of the image is facing the door of the machine.
- The PowderBed images are not migrated when updating to Edition 11.20. If the images need to be available in the future, they have to be exported and stored prior to the update installation.
- The exposure time of the PowderBed images is now longer available in the PowderBed software.

New Functions

- Item 84529: The user can now change the exposure time of the PowderBed images during a build job.
- Item 84538: The PowderBed images are now being stored uncompressed and can be exported using the EOSTATE PowderBed Client.
- Item 84569: The user can now use the EOSTATE PowderBed Client to watch the build process chamber live using the PowderBed camera.
- Item 109620: PowderBed images can be exported for (AfterRecoating and AfterExposure) as .avi video with 30 fps.
- Item 110092: The EOSTATE PowderBed Client gives you the possibility to check events that occurred during, before and after a build job. These events include e.g. frame loss, exceeding the storage capacity and many more. More details regarding this feature can be found in the manual. The most important events are also shown as pop-ups at the machine display.
- Item 112742: The naming of the exported PowderBed images was changed. It now includes JobID, layer number, layer height and the channel (AfterRecoating or AfterExposure).

Known Issues

- Item 122057: In rare cases the exported video file might show an error message stating that the index of the video is damaged or broken. It is still possible to play the video.
- Item 122459: The maximum exposure time for the PowderBed images is approximately 110 ms. When trying to change the exposure time by entering a value above 110 ms, the value is not stored and the exposure time does not change at all.
- Item 124377: For the EOS M 300-4 the PowderBed Images are rotated by 180° degrees.
- Item 125826: Cancelling a job import or a job deletion still leads to an event stating that the job import or the job deletion, respectively, has been successful.



- Item 126020: In rare cases date and time are not shown correctly in all tools that show a list of jobs in the client.
- Item 128259: The live view in the operator role only shows the live image, when "live mode" is selected. When selecting a layer that is already finished, no live image is shown in the channel "live image".