



New firmware and IPS update package available (MR3)

For HP Latex R Printer Series

November 2019

New versions of firmware and software for the HP Latex R Printer Series are available to download.

Related links:
www.hp.com/go/latex/

Printers related to this article
[HP Latex R series](#)

Important note

This is a General Availability version. HP strongly recommends that **all printers are upgraded** to the new firmware and software as soon as possible. New printers must be upgraded during installation.

Where to find the update package

Firmware: **SKAAR_18_19_21.23**

HP Internal Print Server (IPS): **v2019.6.90.8**

<https://we.tl/t-LRuEC0lswj> (temporal availability)
<http://hp.com/go/LatexR1000/firmware>
<http://hp.com/go/LatexR2000/firmware>

How to implement the upgrade

Both components—the firmware and the IPS—must be installed together. No other combination is supported. Firmware update is allowed in **Normal mode** only. Do not try it in Diagnostic mode, or in any other mode.

Mandatory installation order:



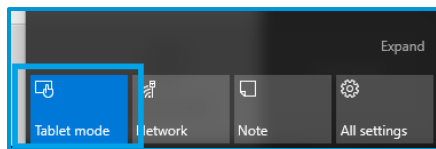


Steps to implement the upgrade:

1. Download and unzip the files
2. Update the firmware
3. Update the HP Internal Print Server (IPS)
4. Apply patches
5. Post-firmware update actions
6. RIP synchronization:
 - 6.1. Caldera RIP
 - 6.2. Onyx RIP
 - 6.3. RIP driver updates

Download and unzip the files

1. Download the 2 files that contain the upgrade files using one of the previous links. The files are:
 - **FW18.23_MR3.zip**
 - **FW18.23_MR3.z01**
2. Extract the contents using a file compressor utility (do not use the one built-in to Windows).
3. Turn OFF Tablet mode: Swipe in from the right side of your screen to open the action center. Turn off Tablet mode by touching the **Tablet mode** icon.



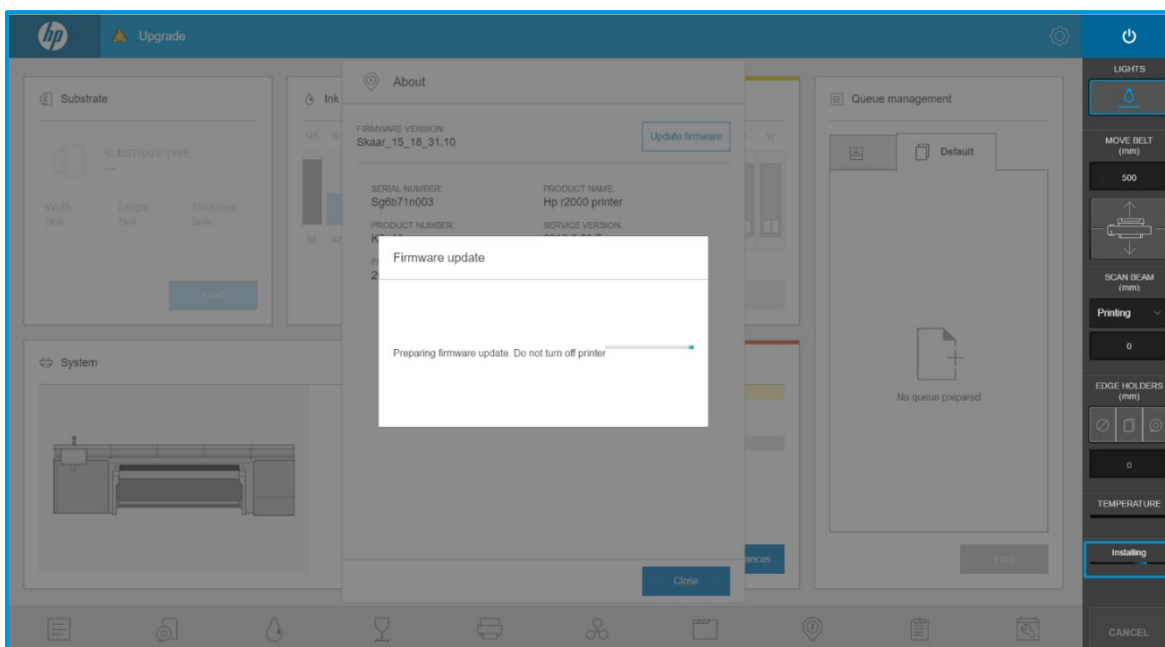
4. Copy the files onto the IPS PC's hard disk (it is recommended to use a dedicated folder, not the desktop).

Update the firmware

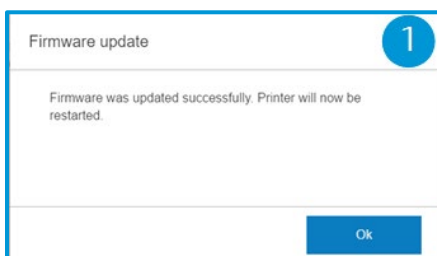
1. Tap the **Home** icon, then tap the **About** icon at the bottom right of the Internal Printer Server's main window. A window showing the details of the current firmware version installed in the printer will appear.
2. Tap **Update firmware** and browse to select the .fmw file; select it by tapping **Select**.



3. The firmware will be uploaded and installed on the printer. The status of the update can be checked on the right side of the IPS main window. There are two possible statuses: **Receiving** and **Installing**.




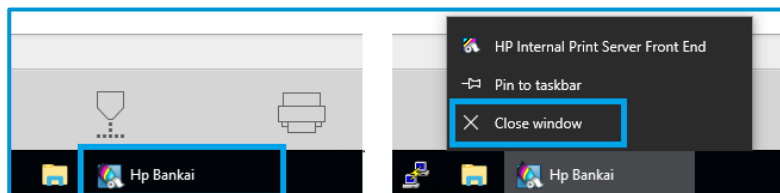
4. Upon completion, the IPS will show the following message. Tap **Ok** to continue. At this point, the printer will reboot without any interaction. If it does not, reboot the printer manually.



IMPORTANT: The first boot after the firmware upgrade takes more time than usual.

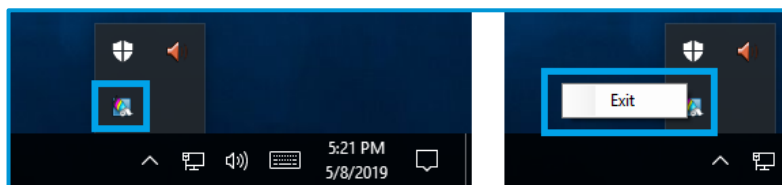
Update the HP Internal Print Server (IPS)

1. Take note of the customer IPS preferences by taking some photos/screenshots of the IPS Preferences. Tap  to access to the preferences and check the values in the “System,” “Connectivity” and “Queue” sections, including (among others) the hot folder configuration.
2. Close the IPS front-end and back-end applications:
 - a. On the Windows task bar, press and hold the **HP IPS icon** until the contextual menu appears, then select **Close window**.



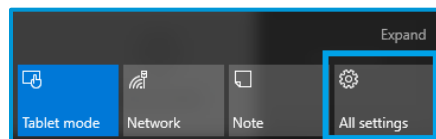


- b. In the notifications area located at the bottom right next to the clock, press and hold the **IPS** icon until the contextual menu appears, then select **Exit**.

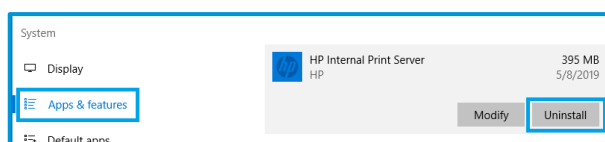
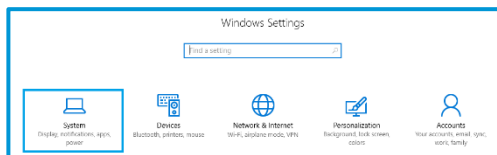


3. Uninstall the HP Internal Print Server software through Windows Settings:

- a. Swipe in from the right side of your screen to open the **Action Center** and select **All settings**.



- b. Access **System > Apps & features** and select **Uninstall** for the **HP Internal Print Server** application. Follow on-screen indications by closing the required applications when required.

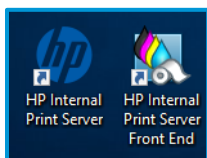


4. Install the Internal Print Server by running the **setup.exe** file. Follow the on-screen instructions until the new software is installed. Tap **Close** to complete the installation.

NOTE: During the IPS installation, some additional Visual C++ packages will be downloaded and installed. If the printer isn't connected to the Internet, these can be installed manually by using the following two files, which are included in the ZIP file downloaded at the beginning of this process:

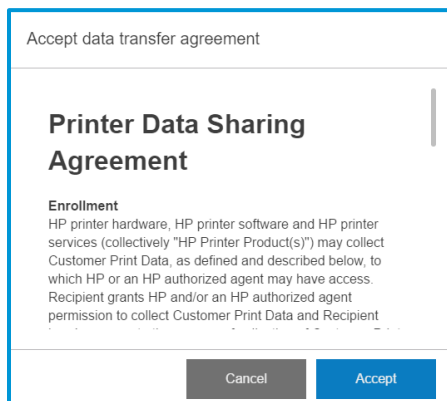
- **vc_redist.x86.exe**
- **vc_redist.x64.exe**

5. Once the installation process is complete, reboot the IPS PC.
6. If the HP Internal Print Server software doesn't boot automatically, tap first on **HP Internal Print Server** and then on **HP Internal Print Server Front End**.





7. On the first boot, the Printer Data Sharing Agreement (PDSA) window will appear. Please click **Accept** to continue.



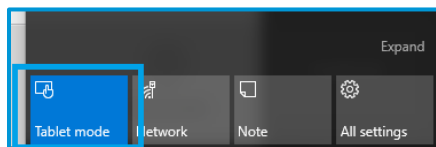
HP strongly suggests accepting in order to take advantage of the Information retriever functionalities, and for a faster and better remote support experience.

8. Re-apply all the specific customer IPS preferences captured in step 1.
9. As a recommended action, perform the first substrate synchronization with Configuration Center: **Substrate Library > Back up substrates**.

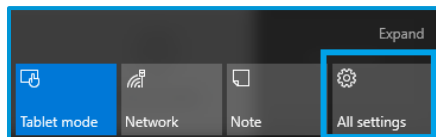
NOTE: In case of problems when starting the Internal Print Server software, please refer to [Appendix 2](#) to troubleshoot these issues.

Apply patches

1. Next, turn off **Tablet mode**: Swipe in from the right side of your screen to open the **Action Center**. Turn off Tablet mode by tapping the **Tablet mode** icon.



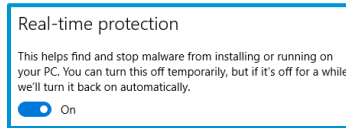
2. Temporarily disable Windows Defender and add an exclusion:
3. Swipe in from the right side of your screen to open the Action Center and select All settings.



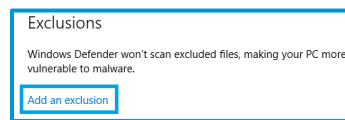
- a. Tap **Update & security > Windows Defender > Real-time protection**.



- i. Disable it temporarily.



- b. Tap **Update & security > Windows Defender > Exclusions > Add an exclusion.**
 - i. Add an exclusion to Windows Defender for the specific patch file or to the directory where it is located.

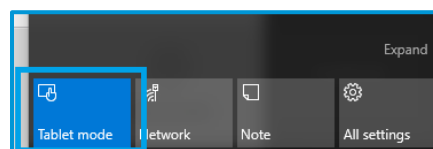


4. Execute the patch **fixABCalibrationValues.exe** and follow the instructions. This patch applies the alignment bar factory calibrations (offset and number of shims) for some specific units.
5. Execute the patch **fix_22120_diagnostic_MR3_vers23.exe** and follow the instructions. This patch adds compatibility with the MR3 release.
6. Execute the patch **fix_41013_diagnostic_MR3.exe** and follow the instructions. This patch fixes a bug related to the vacuum while running this test.
7. Remove the exclusion and re-enable Windows Defender.

Post-firmware update actions

The following post-update actions are required in order to complete the firmware update. The *CheckIpsPermission* and *ConnectivityChecker* software that you are asked to run are in the following Windows directory:
C:/ProgramData/HP/IPS/SupportTools.

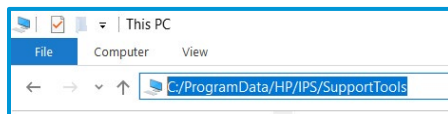
1. Turn off **Tablet mode**. Swipe in from the right side of your screen to open the **Action Center**. Turn off Tablet mode by tapping the **Tablet mode** icon.



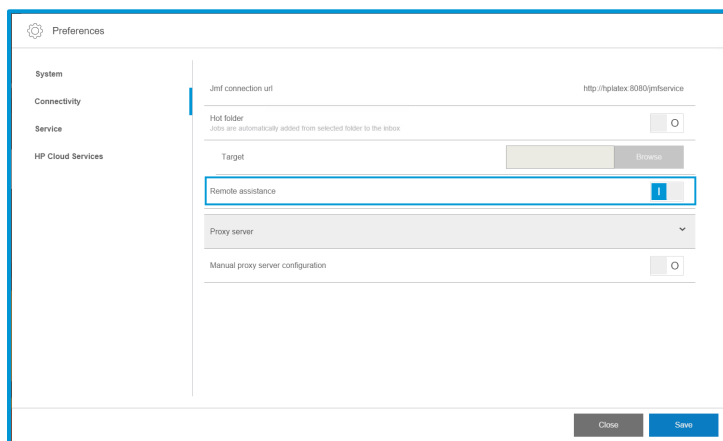
2. On the Windows task bar, tap twice on **HP IPS** to minimize the **HP Internal Print Server** app.
3. Open the *C:/ProgramData/HP/IPS/SupportTools/Win10SystemCheck* folder and execute **CheckIpsPermission.exe** in order to automatically reconfigure some Windows settings that interfere with the correct functionality of the IPS. Press any key to exit when completed.



NOTE: The *ProgramData* directory might be hidden by default for security reasons. If that is the case, copy and paste the path *C:/ProgramData/HP/IPS/SupportTools* into a Windows File Explorer window and press **ENTER**.



4. On the Windows task bar, tap **HP IPS** to maximize the **HP Internal Print Server** app.
5. Turn **Tablet mode** on. Swipe in from the right side of your screen to open the **Action Center**. Turn on Tablet mode by touching the **Tablet mode** icon.
6. Finally, you need to ensure that the **Remote assistance** option is enabled in the IPS Preferences window so that the system can send printer information to the HP servers. Notice that this option will be enabled by default if the PDSA has been accepted when installing the new Internal Print Server.

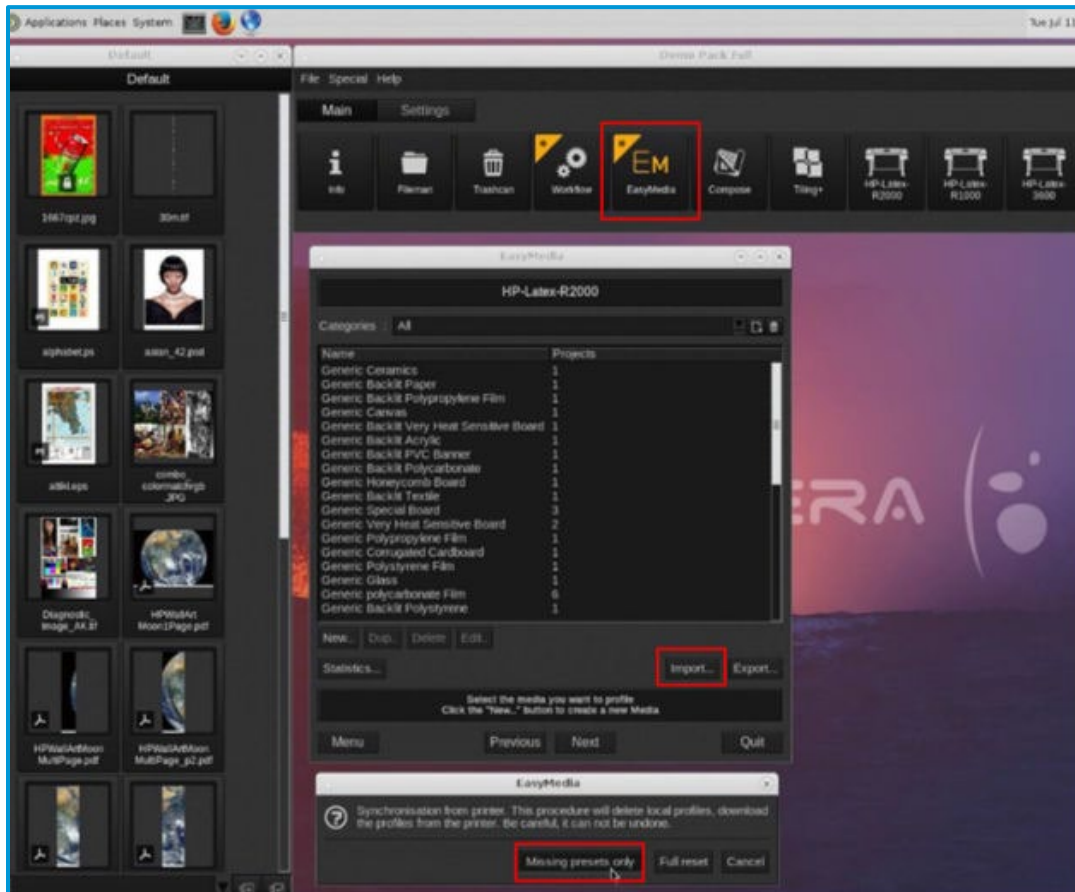


RIP synchronization

The actions below must be carried out after the firmware upgrade in order to synchronize the media list and to import and export the ICC profiles.

Caldera RIP

1. Export your custom ICCs and save them in a folder on your PC.
2. Go to Easy Media.
3. Select the printer and follow the steps to synchronize the media. Click **Import > Autosync > Missing presets only**.



4. Check that all media have been synchronized.
5. If there are any missing or mismatched media, repeat the previous procedure to synchronize them.
6. This time, instead of selecting the 'Add Missing Presets Only' option, select Full Reset.

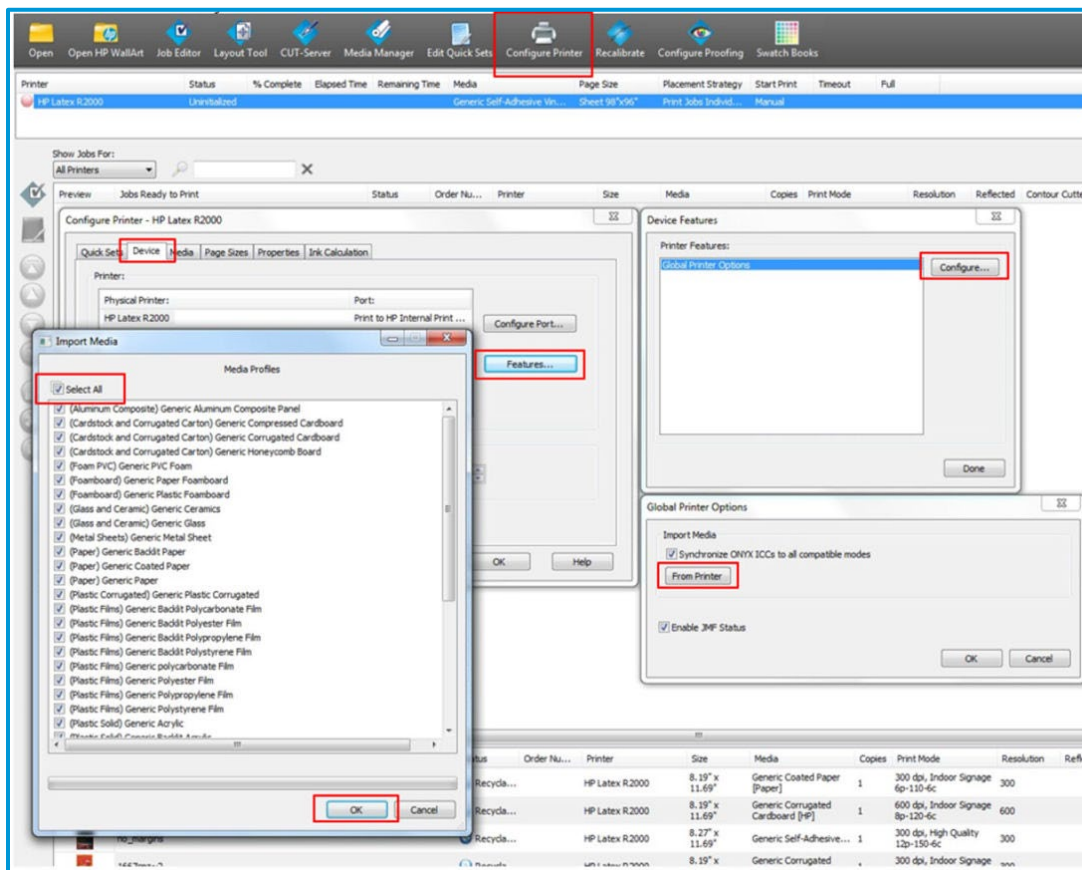
IMPORTANT: This option deletes all existing media in Caldera and imports all media located in the IPS. If some media is stored in the RIP but not in the IPS, this media will be deleted. Make sure you have a backup of the media missing from your IPS.

7. Go to **Easy Media** and import your previously saved custom ICCs.



Onyx RIP

1. Export your custom ICCs and save them in a folder on your PC.
2. Go to **Configure Printer > Device > Features > Configure** and select **From Printer**. Select **All** the media and click **OK** to synchronize.



3. Go to **Media Manager** and import your previously saved custom ICCs.

RIP driver updates

You are also required to advise the customer to update their RIP driver to ensure they have the latest improvements and bug fixes.













- For Onyx RIP, drivers can be downloaded from:
<http://www.onyxgfx.com/prINTER-and-profile-download-manager/>
- For Caldera RIP, separate drivers can be downloaded for the different R Series printers:
 - HP Latex R1000 printers:
https://workspace.caldera.com/index.php?model=download&action=execute&scope=update_files&file_id=83314&file_md5=67a8c36793ab6f6f016d1d9cd01977f4
 - HP Latex R2000 printers:



https://workspace.caldera.com/index.php?model=download&action=execute&scope=update_files&file_id=81941&file_md5=76c702f95aab1d54df5bb4326db7ae7b

Summary of changes

The MR3 firmware release includes the following new improvements with respect to the previous one.

-  1. Sandwich mode
-  2. Configuration Center
-  3. Color consistency
-  4. User interface
-  5. Multiple queues and hot loading for different materials
-  6. Productivity
-  7. Media control
-  8. Servicing
-  9. Writing systems
-  10. Maintenance
-  11. Diagnosticability
-  12. Fixes (from MR2.2 to MR3)



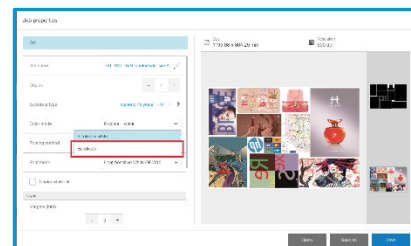
Sandwich mode

Changes

- Simplified printing methods.
- Sandwich mode print modes created for Plastic Solid, Self-adhesive vinyl and Polyester Film.

Details

Check details in [Appendix 3](#).



Configuration Center

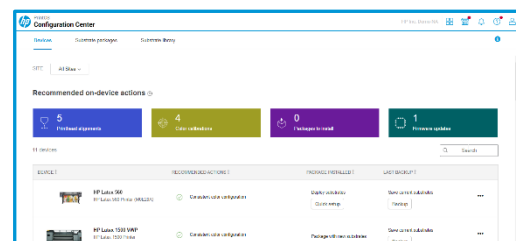
Changes

This release adds compatibility with the Configuration Center—a PrintOS app for fleet management.

Details

Configuration Center provides information on pending recommended device actions and provides you with the possibility to remotely create and deploy media packages across a fleet of compatible devices in PrintOS.

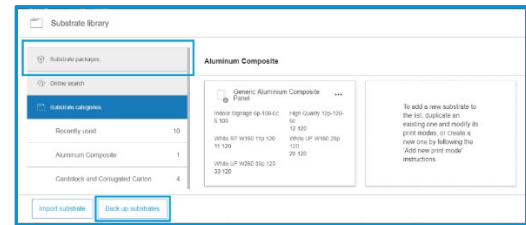
- Remote visibility of:
 - Actual status of the substrate configuration of printer fleet (across all sites).
 - Pending color calibrations.
 - Pending PH alignments.
 - Pending FW updates.
 - Pending deployments of substrate packages.
 - Last device backup.
- In-printer color consistency:
 - Remote access to details about the current configuration of substrates in each printer.
 - Remote access to backups that are automatically created in the Cloud.
 - Possibility of changing device substrates remotely, or of using backups for reprints.
- Remote access to all profiles from “My substrates,” HP Media Locator, and even Reseller substrates, all in one place.





On the printer side, the user interface includes the following changes related to **Configuration Center**:

- New: “Substrate Library” > “Substrate packages” tab. To check the packages sent to the printer from **Configuration Center** allowing for their download and installation.
- New: “Substrate Library” > “Back up substrates” button. Performs a backup of the substrates from the printer to **Configuration Center**.
- The “System alerts” section now notifies you about substrate packages statuses (package availabilities and download statuses).



Check links below for additional information:

- How to use the HP Configuration Center
<https://supportvideos.ext.hp.com/detail/video/6036397999001>
- How to deploy and backup a substrate configuration
<https://supportvideos.ext.hp.com/detail/video/6036404864001>
- Monitor and control your printer configurations
<https://hplatexknowledgecenter.com/blog/monitor-and-control-your-printer-configurations-across-all-sites-new-hp-configuration-center>
- Create and deploy substrate packages in 3 easy steps
<https://hplatexknowledgecenter.com/blog/create-and-deploy-substrate-packages-3-easy-steps-new-hp-configuration-center>

Color consistency

Changes

This functionality allows the customer to get color consistency between copies. When using this mode, the printer activates specific processes, as well higher printhead temperatures, ensuring color throughout the queue.

Details

When enabled, prior to starting to print, the printer will automatically run a 5-minute warm-up routine to stabilize temperature. Then, while printing and between sheets, a stable printhead temperature will be kept.

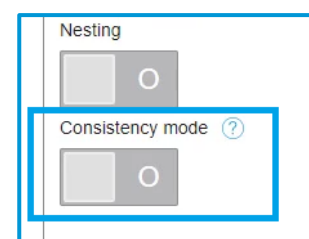
It can be enabled in Queue properties.

After 5 minutes of inactivity (for example, the printer is waiting for the next sheet), Consistency mode loses effectiveness.

NOTE: Mutant servicing can be increased due to the higher PH temperature.

Current limitation:

On flexible materials, the 5-minute warm-up routine will be done between different print modes and therefore the risk of head crashes can be high. Consequently, on flexible materials, use Color consistency only with queues of a single print mode.





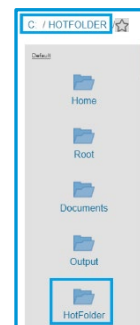
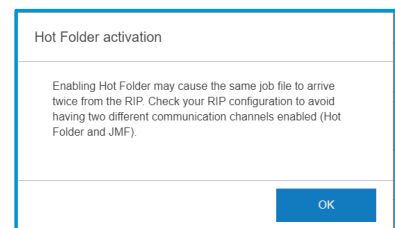
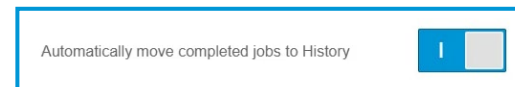
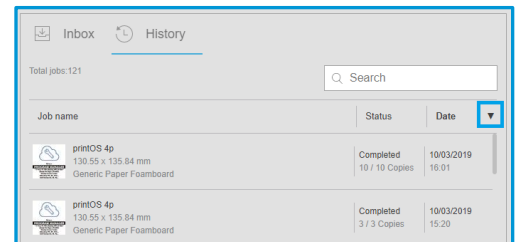
User interface

Changes

- Improved IPS response when moving jobs between the Inbox to the queues.
- New help guides for Sandwich mode, multiple queues, Configuration Center and new MR3 enhancements.
- Job history improvements.
- Addition of a setting to keep all printed jobs in the Inbox.
- Addition of mechanisms to prevent a job from appearing twice in the Inbox.
- Interface usability improvements.

Details

- **Job history:**
 - Added the capability to search jobs by substrate name in the history tab, in addition to job name.
 - Searching jobs with specific characters like +, (, or) now possible.
 - Now we show, with an arrow, the current order in History via job name, status or date.
- A setting to keep all printed jobs in the Inbox has been added. It determines if a printed job is moved from the Inbox to History or not. It can be modified at **Preferences > Queue > Automatically move completed jobs to History**.
- Mechanisms to prevent a job from appearing twice in the Inbox have been added.
 - When enabling the **hot folder**, the following message appears, warning the user about a conflict between the two communication methods.
 - Separate share folders for JMF and the hot folder. A specific one for the hot folder has been created at C:\HOTFOLDER, to be used ideally for this functionality. The already existing one—C:\OUTPUT—should be used for JMF.
- **Interface usability** improvements:
 - Buttons and labels relocated for better readability.
 - Overlapping and clipping fixed on substrate library for long substrate and print-mode names.
 - Enhanced behavior of modal windows (pop-up messages).





Multiple queues and hot loading for different materials

Changes

This release enables the Multiple queues feature, which means that the IPS can handle more than one queue of jobs at a time and adds the possibility of hot loading between different materials.

This is an improvement in productivity for customers who usually work with a diversity of substrates.

Details

Create up to 4 different queues

When adding a job to the queue, the printer will decide if a new queue needs to be created:

- If a job is added to the queue, and the queue for this job's substrate hasn't been created yet, a new tab with the substrate name will be created.
- In case the substrate matches but all the jobs in the queue are locked to be printed, a new queue will be created.
- This can only happen when the max number of queues (4) has not been reached.

In the example below, a Generic Ceramic job is added to an existing queue of Generic Paper Foamboard. As a result, a new queue for Generic Ceramic is created.

Chainable queues

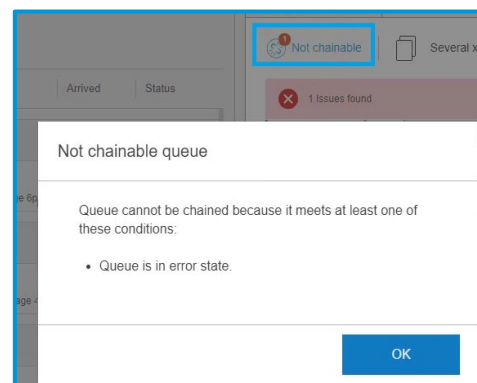
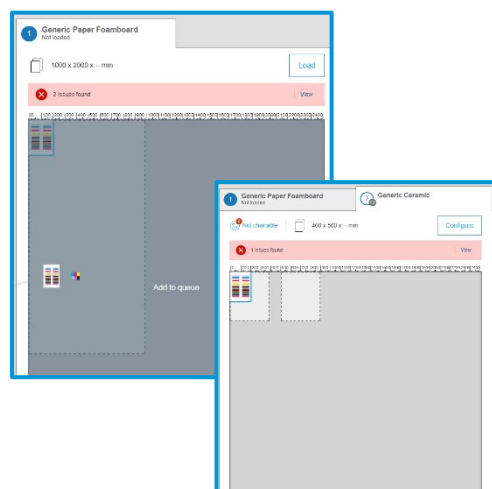
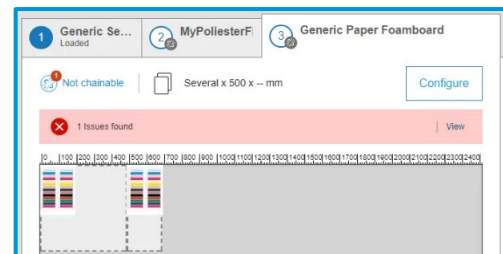
When chained, the customer's queues can be automatically printed one after the other, without the need for pressing the **Print** button. Once a queue is finished, the printer emits 3 beeps and it will ask the user to load the material for the next queue as a regular hot-load job.

In case a queue cannot be chained, the reason for this can be checked by pressing **Not chainable**.

Here are the reasons why a queue cannot be chained:

- Chained printing setting in Preferences is disabled.
- Substrate thickness has not been set.
- Edge holders are enabled.
- Feed method is roll or table-top roll.
- Substrate has a different heat-sensitive condition than does the current printing queue.
- There are jobs in the queue with white ink and white printheads are not installed.
- Queue is in error.

This feature is enabled by default and it can be modified at **Preferences > Queue > Chained printing**.





Configure queues

The Active queue, at position 1, will take the configuration from the substrate loading window.

When queues at positions 2, 3 and 4 are created, printer will use the last configuration for the substrate (sheets per row, position, width, length) except for **Thickness**, which must be entered manually.

Queue configuration can be adjusted by pressing the **Configure** button.

Reorder the queues

Drag and drop a queue to a desired position. The queues can be reordered only while the printer is in idle status.



Productivity

Changes

- Hot loading:
- IPS hard disk clean-up

Details

- **Hot loading:**
 - Multiple print modes can be used in the same queue or across multiple queues. Media layout is adapted automatically for each job. Heaters are also adapted, dynamically, to media width.
- **IPS hard disk clean-up:** When the IPS hard disk is becoming full, the system applies some policies to increase free space. The current implementation:
 - deletes old jobs not used lately, specifically the high-resolution TIFF files referenced in Job History. The procedure is launched when the free space is less than 150 GB and applies to jobs not used in the last 90 days.
 - compresses an internal job database when it approaches the 2 GB limit.

NOTE:

- Non-applicable files in the Job History database won't be deleted. Job entries in the Inbox won't be deleted.
- We have speeded up the cancelation and recovery process after a Crash sensor activation.



Media control

Changes

Improved the end-of-roll detection when the roll remains attached to the core, preventing false end of rolls.

Servicing

Changes

- Periodic wiping of the Optimizer has been added, increasing the duration of the Cleaning roll.
- Changed position of wiping blades.

Details

- Periodic wipings of the Optimizer increase the Cleaning roll life:
 - The periodic wiping is first started at pass 10 of every plot, then repeated every 50 passes.
 - This servicing, designed to help keep the Optimizer printheads in better condition, allows the printer to reduce servicing between sheets and reduces the usage of the Cleaning roll.
 - For maximum efficiency, sheets need to be inserted as soon as the printer asks for them.
- In order to reduce the ink drops caused by the Cleaning roll fiber, the wiping blades will no longer be in the engaged position under the Carriage side plates.

Writing Systems

Changes

- Automatic Printhead Alignment accuracy improvements:
 - Better performance for the Optimizer and Overcoat alignments.
 - Spitbars have been added to the Alignment Plot.
- Thicker lines on the Alignment Verification Plot.
- White alignment now becomes obsolete when the Black/Cyan printhead is replaced.
- Corrected a print mode name for Generic Backlit Polyester Film that was marked wrongly as heat-sensitive.
- New print mode added: 3 passes at 80% ink density.



Maintenance

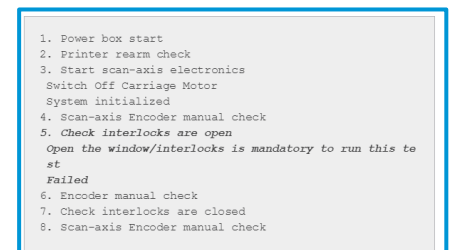
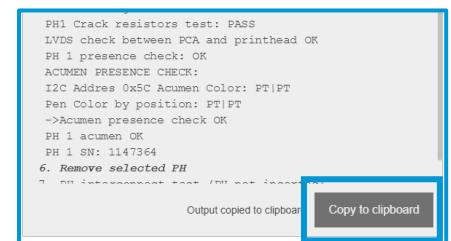
Changes

Added the capability to download files in the background. This functionality allows you to add files (upgrades or patches) to a specific maintenance.

Diagnosticability

Changes

- New diagnostics have been implemented:
 - 99918 - Service Plot: This diagnostic shows information about the current status of the printer.
- A new button to copy diagnostic output to the clipboard has been added:
- User interface improvements:
 - Text layout improved.
 - Now shown: the durations of diagnostics, in minutes and seconds.
 - In case of a failure of a diagnostic, the step that caused the failure will be marked in bold. Previously, we were not making this condition.



Fixes (from MR2.2 to MR3)

Changes

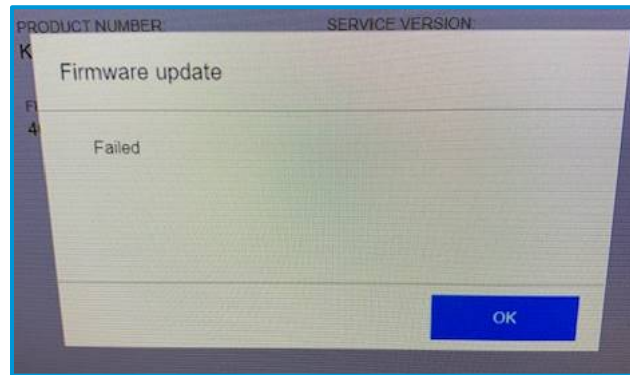
Bug fixes and improvements in this firmware release include:

- During the recovery operation after a Crash sensor detection, the Alignment bar will now move down in order to block access to the printzone area.
- Fixed a **memory leak issue** when printing a job at high resolution, including jobs in Sandwich mode.
- Fixed a **bug in nesting** where under certain conditions, the preview was not matching with the final output.
- Fixed a **mismatch between the IPS Job History and PrintBeat Job History**. The possibility of lost jobs in PrintBeat has been reduced.
- Fixed an issue where in a multi-copies job, the **number of copies** were not **updated** while printing.
- Stability improvements:
- Improved **cartridge replacement** while the printer is printing; prevents cartridge rejections for this reason.
- Localization fixes.
- Other small improvements and bug fixes have been made.



Appendix 1 – Firmware upgrade error

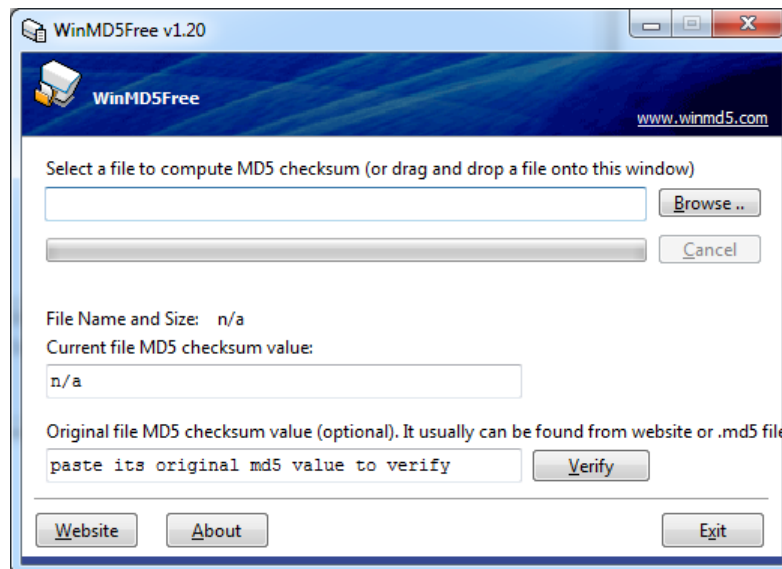
In some cases, the new firmware cannot be installed upon trying to update it:



If so, please perform the following action to troubleshoot the issue:

Check if the firmware file that you are trying to install is corrupted by computing the MD5 checksum value:

1. Go to <http://www.winmd5.com/> and download the **windmd5** software.
2. Run the **WindMD5.exe** file. The following window will pop up:



3. Click **Browse** and select the **SKAAR_18_19_21.23.rfu.fmw** file.
4. Paste the value "bbabb3c2a972321c826cdf3074d90546" in the "Original md5 value" field and click **Verify**.

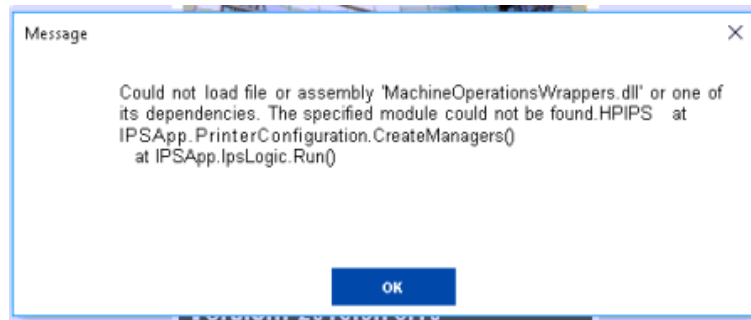
If the two values do not match, the downloaded file is corrupted. In that case, download the firmware file again from the HP support web site.



Appendix 2 – IPS doesn't boot

In case the Internal Print Server software doesn't boot properly after the upgrade, please perform the following action:

When the application has started, the following message will have appeared. This error message is in regards to an issue with Visual C++ redistributables.



- a. Swipe in from the right side of your screen to open the **Action Center** and select **All settings**. Go to **System > Apps & features** and search for “Visual C++ redistributables.”
- b. If a version doesn't match with 14.16.27012, **uninstall it**.
- c. Install the correct x86 and x 64 versions manually by using the following two files, which are included in the ZIP file downloaded at the beginning of this process:
 - **vc_redist.x86.exe**
 - **vc_redist.x64.exe**



Appendix 3 – Sandwich mode

Two-image composition with a white ink layer in-between

This guide is about composing a single print file from 2 different image files separated by a white ink layer between them. The white ink layer can be set to keep the two images from having any visual interference with each other, or to be permeable and allow some light to pass through.

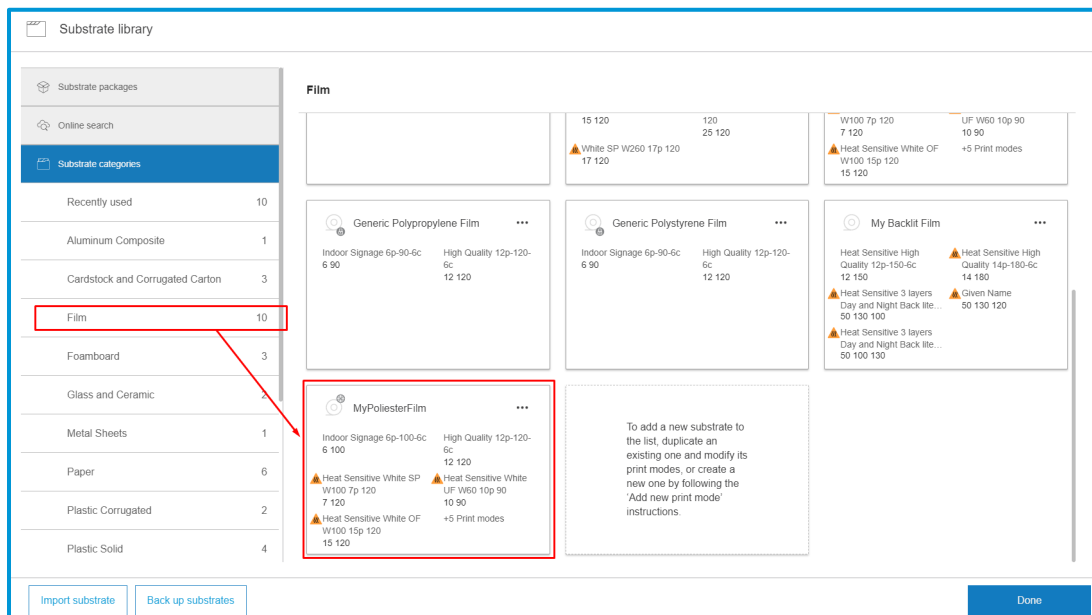
Constraints:

- The two images must have the same size and resolution.
- The image containing the white ink layer is the source of the composition.

Preparing the printer:

- Ensure your substrate contains at least one Sandwich print mode. To do so, go to the Substrate library, look for your substrate category, and tap the specific substrate you want to print on.

NOTE: Some substrates, like Generic Polyester Film, Generic Backlit Polyester Film, Plastic Solid and Self-adhesive vinyl, come with a Sandwich print mode directly from the factory.





- Tap the substrate to open its details. Check if any of the print modes are declared as Sandwich in the “Color mode” column:

Substrate details						
Print modes						
NAME	NUMBER OF PASSES	COLOR MODE	PRINTING METHOD	INK DENSITY (%)	INK DENSITY B (%)	ACTIONS
Outdoor Signage 4p-100-6c	4	6 colors	N/A	90	NA	
Indoor Signage 6p-110-6c	6	6 colors	N/A	110	NA	
High Quality 12p-150-6c	12	6 colors	N/A	150	NA	
White SP W100 8p 120	7	6 colors + white	White spot	120	NA	
White OF W100 16p 120	15	6 colors + white	White overflood	120	NA	
White OF W160 24p 120	24	6 colors + white	White overflood	120	NA	
White SP W260 18p 120	17	6 colors + white	White spot	120	NA	
White UF W260 32p 120	33	6 colors + white	White underflood	120	NA	
Add new print mode						
<div>Close Save</div>						

- If none are ‘Sandwich’, tap **Add new print mode** below the list and create one that is.

Substrate details						
Print modes						
NAME	NUMBER OF PASSES	COLOR MODE	PRINTING METHOD	INK DENSITY (%)	INK DENSITY B (%)	ACTIONS
Outdoor Signage 4p-100-6c	4	6 colors	N/A	90	NA	
Indoor Signage 6p-110-6c	6	6 colors	N/A	110	NA	
High Quality 12p-150-6c	12	6 colors	N/A	150	NA	
White SP W100 8p 120	7	6 colors + white	White spot	120	NA	
White OF W100 16p 120	15	6 colors + white	White overflood	120	NA	
White OF W160 24p 120	24	6 colors + white	White overflood	120	NA	
White SP W260 18p 120	17	6 colors + white	White spot	120	NA	
White UF W260 32p 120	33	6 colors + white	White underflood	120	NA	
<div>Add new print mode</div>						
<div>Close Save</div>						



- Write a name for your new print mode that you can easily identify, and follow the step-by-step process. Ensure that you select **Sandwich** in the “Color mode” field.

Add print mode

1 Define print mode and test it

Name: Easy_to_Identity_Name

Color mode: Select an option

Printing method: ?

Heat-sensitive substrate

Number of passes: ?

White density: ?

Print ink drying and color saturation test (optional): ?

Ink density (%): ?

Ink density B (%): ?

Print test

Close Save

- The normal printing method for Sandwich is 3-Layer. To boost the opacity of the white ink in order to get an intense and completely opaque white layer, select the **5-layer** mode instead.

Add print mode

1 Define print mode and test it

Name:

Color mode: Sandwich

Printing method: ?

Heat-sensitive substrate

Number of passes: ?

White density: ?

Print ink drying and color saturation test (optional): ?

Ink density (%): ?

Ink density B (%): ?

Print test

Close Save



- For a visual explanation of white layers and their printing methods, click on the “?” mark for help.

Add print mode

1 Define print mode and test it

Name

Color mode

Printing method

Substrate

White overflood White underflood White spot

Translucent substrate

3 layers 5 layers

Close Save

- Once you are done with all the settings, click **Save**. The new print mode will appear in the list:

Substrate details

	Heat Sensitive White UF W60 10p 90	10	6 colors + white	White underflood	90	NA		
	Heat Sensitive White OF W100 15p 120	15	6 colors + white	White overflood	120	NA		
	Heat Sensitive White OF W160 24p 120	24	6 colors + white	White overflood	120	NA		
	Heat Sensitive White SP W260 17p 120	17	6 colors + white	White spot	120	NA		
	Heat Sensitive White UF W260 33p 120	33	6 colors + white	White underflood	120	NA		
	Heat Sensitive 5 layers Dual Side 61p 110 110	61	Sandwich	5 layers	110	110		
	Easy_to_Identify_Name	50	Sandwich	3 layers	90	90		
	Heat Sensitive 3 layers 50p 100 130	50	Sandwich	3 layers	100	130		
	Heat Sensitive White OF W60 11p 90	11	6 colors + white	White overflood	90	NA		

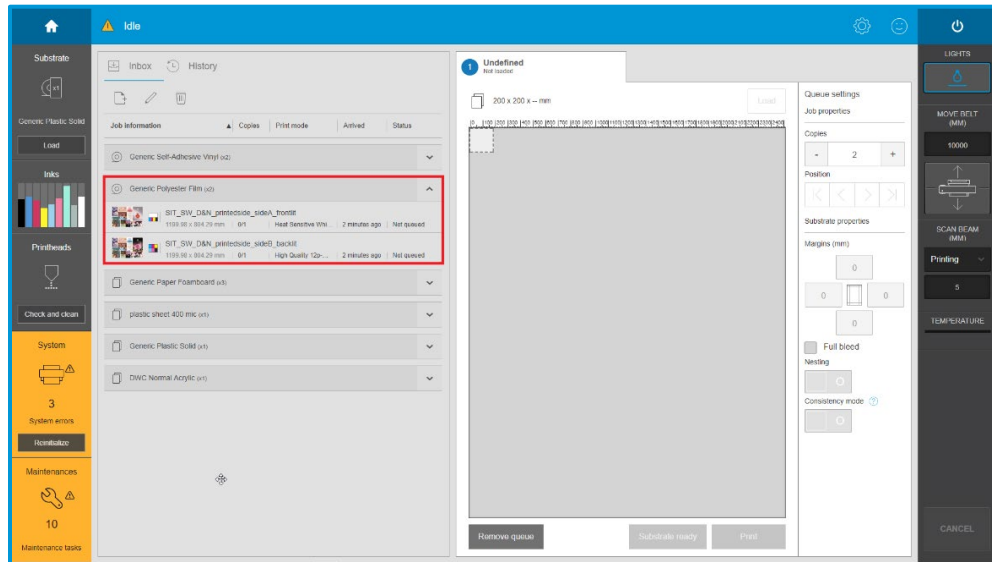
[Add new print mode](#)

Close Save

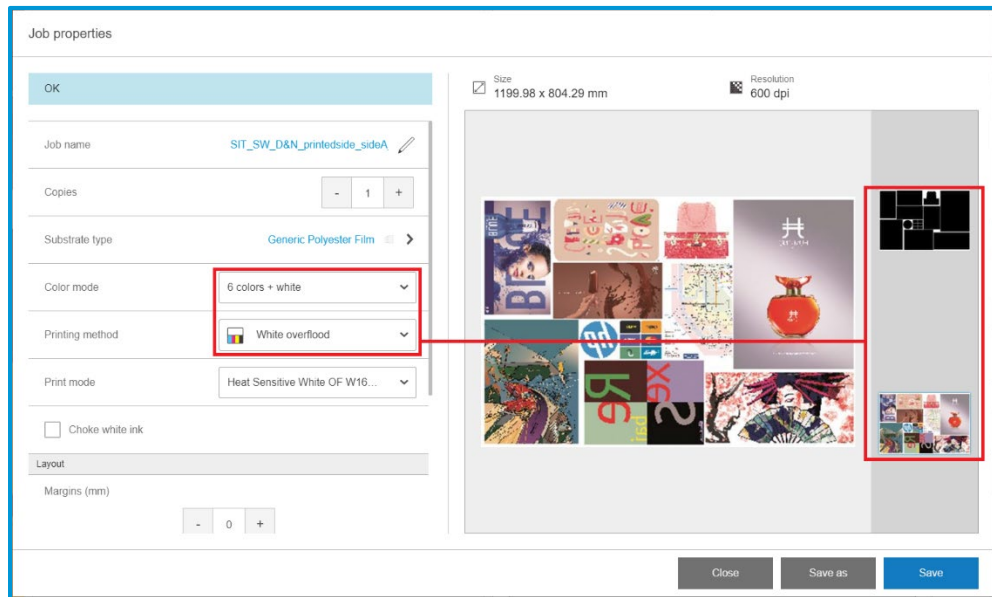


Composing and printing the image:

- Two images of the same size must be sent for the desired substrate, at least one of them containing the white layer embedded from the RIP or the application. Open the image properties by double-tapping the image.



- Once open, note that there is only one color layer and one white layer present. The order of the layers in the preview represents how they will be printed. In this example, as it is defined as **White Overflow**, the white layer is shown on top of the color layer:



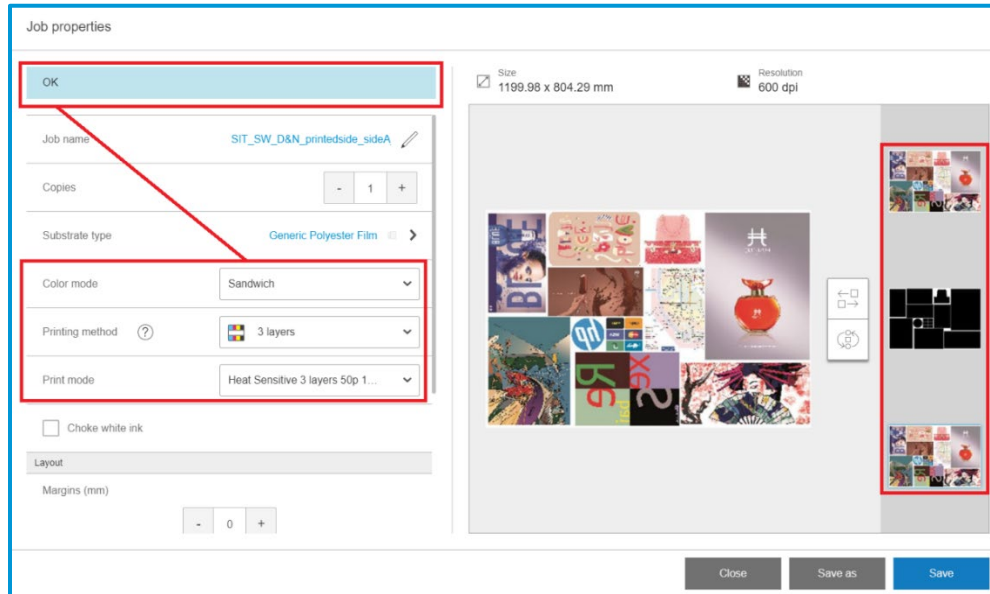


- To add an additional color layer to the sandwich, just change the **Color Mode** from “6 Color + White” to **Sandwich**.

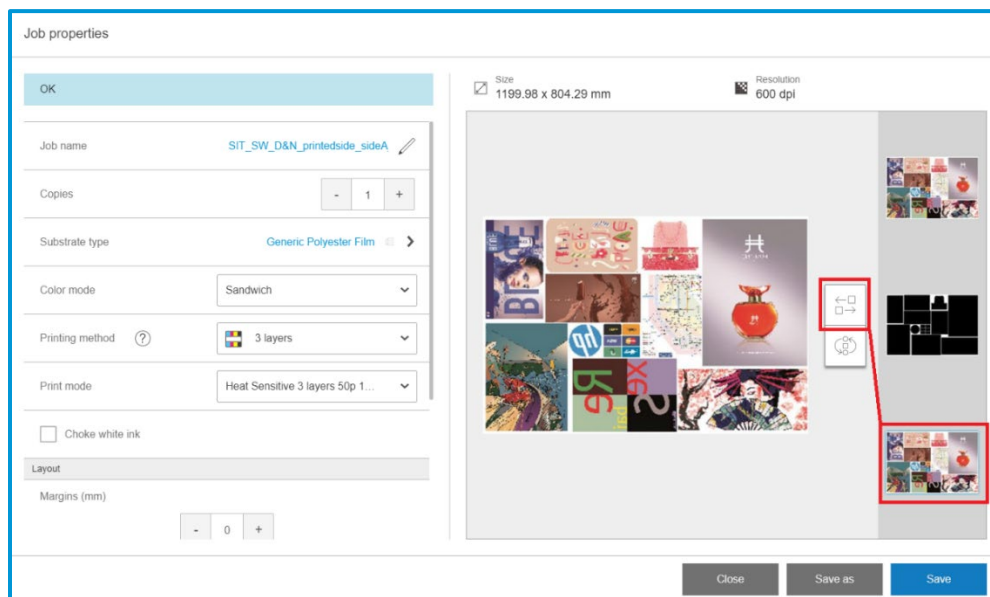
- Once done, some actions are requested:
 - The existing color layer has been duplicated and will be now printed over and under the white layer, as is shown in the layers preview.
 - The printing method is not selected automatically. The user must specify the number of layers that determines the white layer opacity. Choose between 3 or 5 layers.
 - Print mode is dependent on the Printing Method. Select it and your image will become ready.

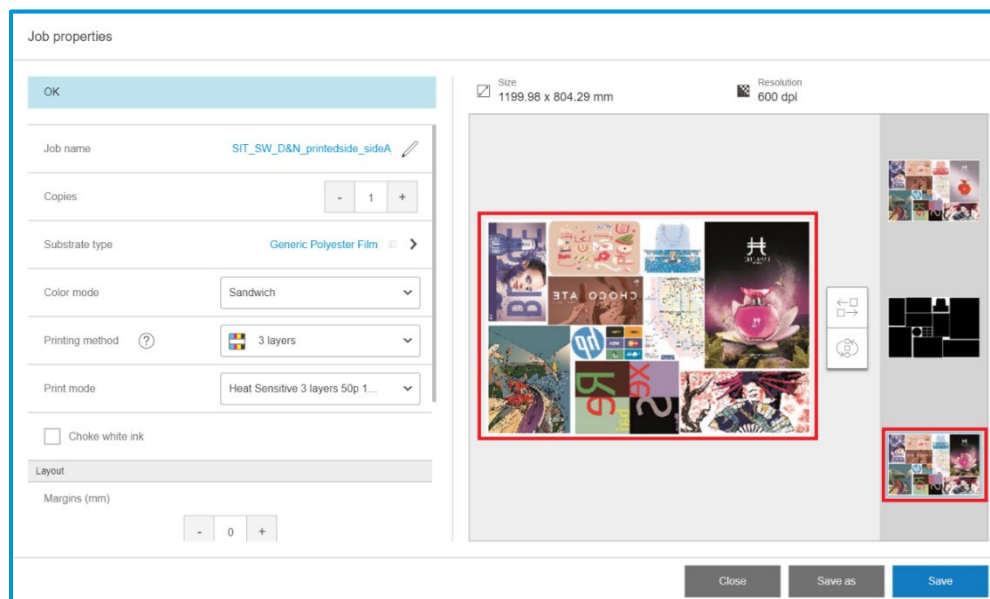
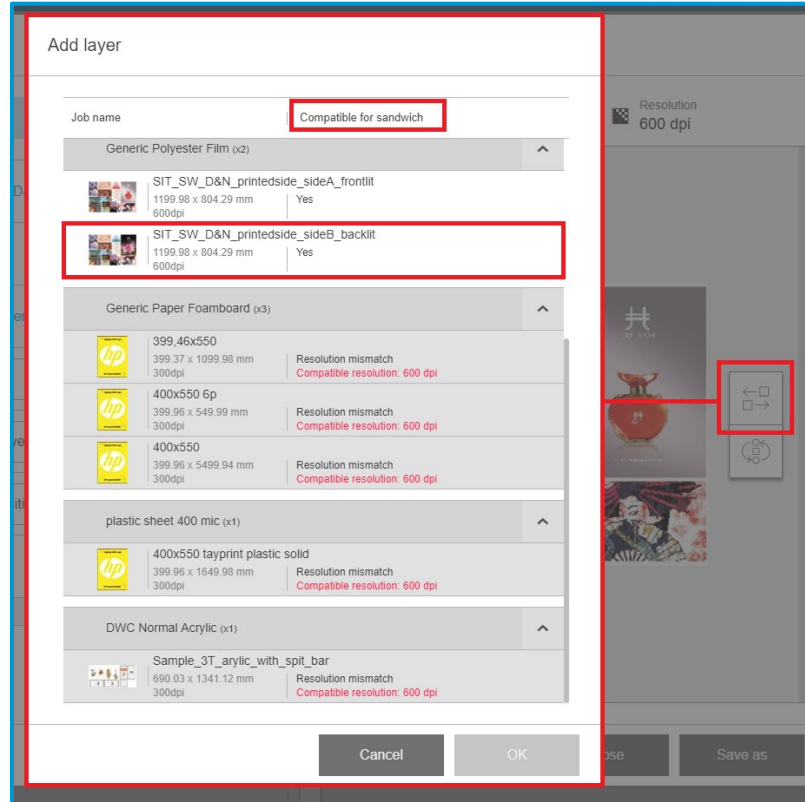


NOTE: On the image, 3 layers are shown at the right side in a red box. In order to know what the top image is, what the bottom image is, or where the substrate is located, we need to locate the substrate under the red square:



- At any time, the user can replace one of the two color layers with another file already sent to the printer, as long as it has the same size and resolution. To do so, tap the image you want to replace and tap the icon indicated in the following image. This will open a browser by which the user can select the image to use to replace the current one.





- **Save** your file, but remember to tap **Save as** if you prefer to keep the original files as they were. Otherwise, the new Sandwich mode image will overwrite the original one you edited.



- Note that the tiny colored icon beside the tooltip now shows a two-colored grid with a white space in-between. This is an easy way to identify files that contain white layers in one form or another.



- Your sandwich image is ready to print. Just drag and drop it onto the preview area at the right, and tap **Print**.

