# SCREENPRO DIRECT™

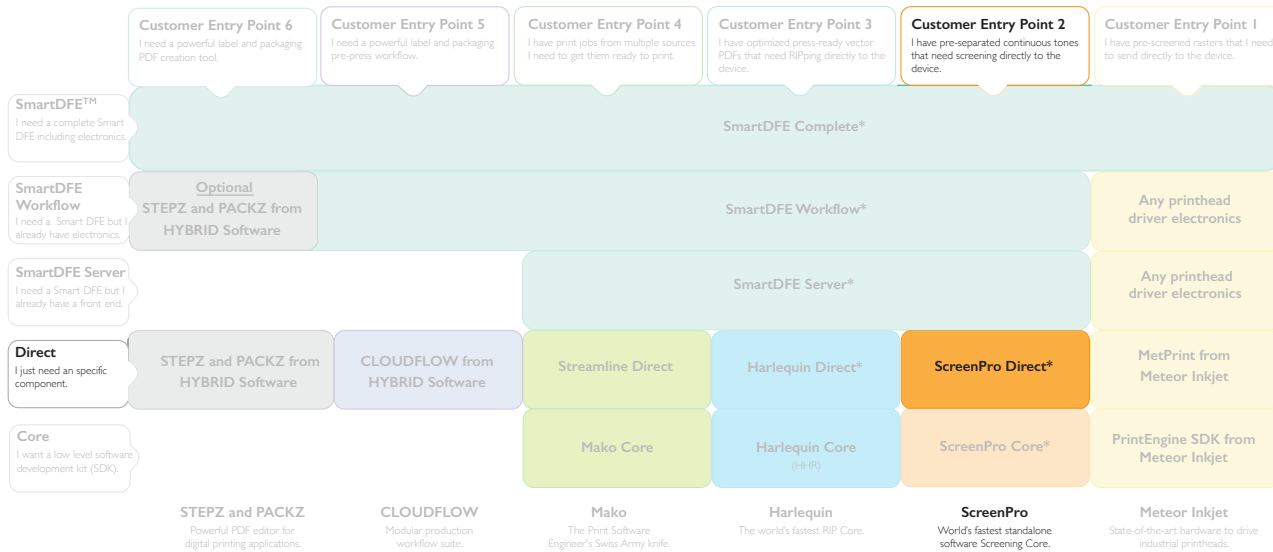**meteor READY**

Already have a RIP or are your customers' print jobs already in an image format? ScreenPro Direct gives you everything you need to take continuous tone rasters (images) from any RIP and then screen and stream them at maximum physical print speed directly to the head driver electronics.

| | Customer Entry Point 6 — I need a powerful label and packaging PDF creation tool. | Customer Entry Point 5 — I need a powerful label and packaging pre-press workflow. | Customer Entry Point 4 — I have print jobs from multiple sources. I need to get them ready to print. | Customer Entry Point 3 — I have optimized press-ready vector PDFs that need RIPping directly to the device. | Customer Entry Point 2 — I have pre-separated continuous tones that need screening directly to the device. | Customer Entry Point 1 — I have pre-screened rasters that I need to send directly to the device. |
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| **SmartDFE™** — I need a complete Smart DFE including electronics. | SmartDFE Complete* | | | | | |
| **SmartDFE Workflow** — I need a Smart DFE but I already have electronics. | Optional STEPZ and PACKZ from HYBRID Software | SmartDFE Workflow* | | | | Any printhead driver electronics |
| **SmartDFE Server** — I need a Smart DFE but I already have a front end. | | | SmartDFE Server* | | | Any printhead driver electronics |
| **Direct** — I just need an specific component. | STEPZ and PACKZ from HYBRID Software | CLOUDFLOW from HYBRID Software | Streamline Direct | Harlequin Direct* | ScreenPro Direct* | MetPrint from Meteor Inkjet |
| **Core** — I want a low level software development kit (SDK). | | | Mako Core | Harlequin Core (HHR) | ScreenPro Core* | PrintEngine SDK from Meteor Inkjet |
| | **STEPZ and PACKZ** — Powerful PDF editor for digital printing applications. | **CLOUDFLOW** — Modular production workflow suite. | **Mako** — The Print Software Engineer's Swiss Army knife. | **Harlequin** — The world's fastest RIP Core. | **ScreenPro** — World's fastest standalone software Screening Core. | **Meteor Inkjet** — State-of-the-art hardware to drive industrial printheads. |

## Multi-core and multiple PC

ScreenPro Direct can be configured in many ways: You can run all colors on a single PC, one color per PC, or group colors across on any arrangement of PCs.

The ScreenPro Direct pipeline is also very configurable, allowing you to tune how many threads each plugin in the pipeline is allowed.

ScreenPro Direct is also cross-platform with Windows 10 IOT and Linux (Ubuntu and CentOS currently supported). Configuring the number of threads allocated to ScreenPro Direct can also allow multiple programs to run on the same PC simultaneously (e.g. drivers for electronics or third-party RIPs).

## Ultra-high-speed halftone screening solution

A key part of the software required to drive a digital printer is the halftone screening module. This takes continuous tone (contone) images (e.g. 24 bit RGB with 255 shades of red, green and blue) and converts them to images that can be outputted with drops of ink. For each ink color (e.g. Cyan, Magenta, Yellow and Black), the printer can only output a single shade. The drop of ink is either fully there or it's not (binary). There are classes of printers that can vary the size of the drop (e.g. 1 - 8 drop sizes). All the shades you see printed are created by special patterns of ink drops and these are combined with media in the human vision system to create shades.

ScreenPro Direct does this complex conversion at the ultra-high speeds required for direct driving of print electronics. It also uses the screening patterns and the technologies behind PrintFlat™ to give you exceptional quality.
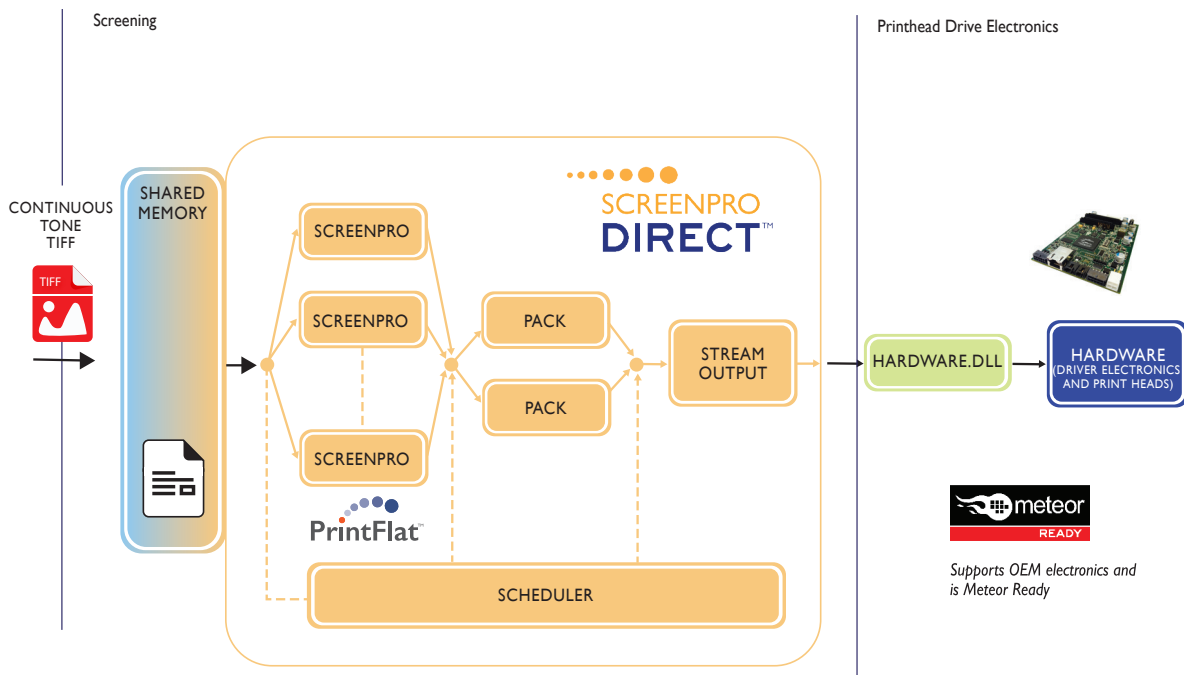
## Begin printing as soon as you have finished RIPping

Start printing as soon as you have continuous tone images from your RIP of choice. Configure your RIP to output continuous tone pre-separated images to disk. Once you have created all the images you need for a print run you can complete the screening and streaming on the fly whilst the printer is running. The speed at which the rasters can be screened is predictable and deterministic. It doesn't matter what content the image files contain, ScreenPro will process them all at the same speed.

## Integration with any RIP and electronics

Whilst we can drive Meteor Inkjet electronics out-of-the-box, ScreenPro Direct has been designed to drive any electronics. We have already built plugins for a number of other industry-standard electronics. Our Technical Services team can link to new hardware very quickly and it typically requires a 20-Day BreakThrough service. Our BreakThrough projects are recoverable against licenses as soon as you start shipping and are therefore effectively free.

**GLOBAL GRAPHICS® software**

THE QUEEN'S AWARDS FOR ENTERPRISE: INNOVATION 2020

*Supports OEM electronics and is Meteor Ready*

## PrintFlat™ and custom screen design

**PrintFlat™** is our award-winning technology that corrects digital inkjet quality issues like head-to-head density variations and inkjet head smile. These attributes result in banding on the printed output which is very difficult to correct for in hardware (e.g. by tuning voltages). The PrintFlat technology is applied at runtime and can enhance the quality of the output without slowing down your device.

We also have a PrintFlat screen design service, which can be used to create custom screens to deal with other quality issues like mottling, chaining, noise in highlights, etc.

## When used with Meteor electronics

**Meteor Mixed Mode** can send static data to the preload buffers for each of the static print bars at the beginning of the run (e.g. Cyan, Yellow and Magenta). For zoned variable data jobs, this means it can send just the variable data regions to the channel driving the variable data print bar (e.g. Black). In many cases, this will reduce the PC part of the bill of materials for the printer whilst still driving at full speed.

**Meteor NozzleFix™** provides nozzle-out compensation for single-pass or scanning systems to eliminate single pixel streaks from clogged or failed nozzles. Deviated or missing nozzles are identified to the Meteor datapath and switched off while nearby nozzles apply compensating fluid in the same or different color planes resulting in seamless correction.

## Additional benefits

Adding ScreenPro Direct into a solution is an ideal stepping stone to Harlequin Direct. Once you have connected your printer electronics to ScreenPro Direct, it will work with Harlequin Direct.

The **Job Cost Estimator** is an application that uses the same setup that drives your printer and calculates a very accurate estimate of the ink cost for a specific job. It has been designed to be extensible so that it could include other typical job costs in future (e.g. media, staff and maintenance). Job Cost Estimator is self-contained and doesn't require any connection to your printer, which makes it ideal when you want to give a job cost indication away from the print shop

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