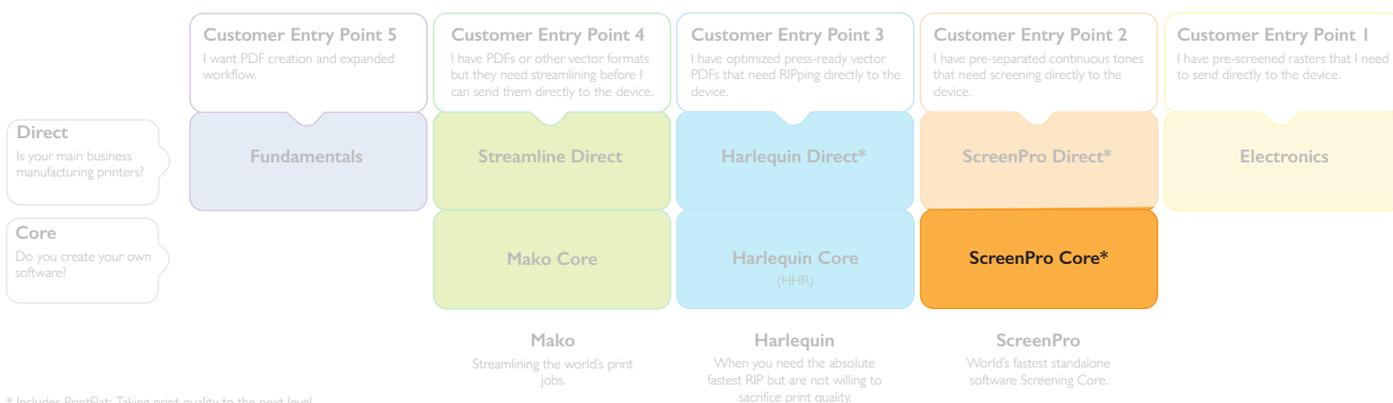# ScreenPro™

ScreenPro Core - the world's fastest standalone screening engine. Want to accelerate the performance of your printing workflow? Global Graphics Software's multi-award winning screening engine, ScreenPro Core, converts contone image data into ready-to-print halftone screened data in real-time and with no compromise on quality.
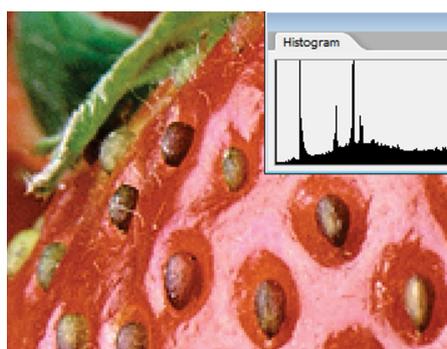
	Customer Entry Point 5 I want PDF creation and expanded workflow.	Customer Entry Point 4 I have PDFs or other vector formats but they need streamlining before I can send them directly to the device.	Customer Entry Point 3 I have optimized press-ready vector PDFs that need RIPping directly to the device.	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.
Direct Is your main business manufacturing printers?	Fundamentals	Streamline Direct	Harlequin Direct*	ScreenPro Direct*	Electronics
Core Do you create your own software?		Mako Core	Harlequin Core (HHR)	**ScreenPro Core***	
		Mako Streamlining the world's print jobs.	**Harlequin** When you need the absolute fastest RIP but are not willing to sacrifice print quality.	**ScreenPro** World's fastest standalone software Screening Core.	

* Includes PrintFlat: Taking print quality to the next level.
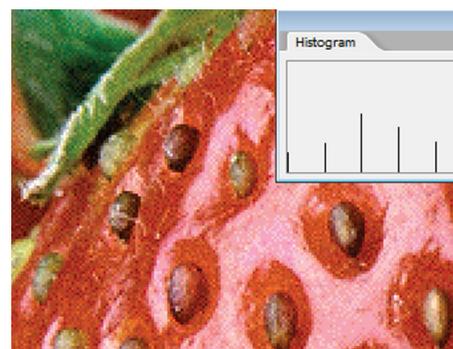
What is ScreenPro?

A core part of the software required to drive a digital printer is the halftone screening engine. ScreenPro turns contone image data into discrete drop levels; it is complementary to RIP software, and not generally a replacement for it. Many RIPs can provide screened output, but this is not their focus and the technology and algorithms used are often more than 20 years old.

ScreenPro sits between the RIP and the printer and takes the output of your RIP software (continuous tone 8 or 16 bit grayscale TIFF separations) and screens the image to the drop levels supported by your printer (screened grayscale TIFF separations).

The 'art' of ScreenPro™ screening

A typical input image with 256 levels available for each individual pixel - the histogram shows the distribution of the individual pixels across the 256 levels available.

A typical ScreenPro output image with 5 printable levels (4 drop sizes) available for each individual pixel - the histogram shows the distribution of the individual pixels across the 5 levels available.

The need for SPEED - why is fast halftone screening important?

Screening can be a bottleneck in high-speed and real-time (variable data) printing. Most standard RIP screening algorithms are old, inefficient and not optimized for modern processors. In contrast, ScreenPro screening was built from the ground up using the latest proprietary algorithmic technology, and is performance-optimized for CPUs such as Intel i9, Xeon and AMD Ryzen Threadripper. ScreenPro provides predictable and deterministic screening, essential to ensuring the guaranteed throughput required to keep up with modern press speeds.

In the next generation of digital presses, increasing printhead resolution, bit-depths, print widths, line speeds and variable data all mean that the data rates required are increasing exponentially, and so the use of a highly efficient screening engine like ScreenPro Core is critical. Using ScreenPro Core means that you can minimize your BoM costs for processing hardware, and ensures that you are making the maximum, most efficient use of your hardware investment.

Quick to market

ScreenPro Core is all about SPEED - not just the speed of your screening, but the speed with which you get your product to market too. Using ScreenPro Core in your product provides a performance-optimized, ready-to-go component to your workflow, improving the competitive position of your product and getting you to market quicker. ScreenPro Core is the result of countless hours of engineering effort and significant R&D investment, all focused on this one key area of the printing process - using ScreenPro Core reduces your development risk and allows you to leverage all of this embedded knowhow at a fraction of the time and cost it would otherwise take to develop. ScreenPro Core future-proofs your workflow, as Global Graphics continues to invest in updates.

Open system

ScreenPro Core is fully compatible with your existing workflow and complements any RIP, such as Esko, Caldera, ColorGate, EFI, Sofha, or Global Graphics' own Harlequin RIP®. ScreenPro Core is supplied as an SDK for seamless integration into your own OEM software, providing an invisibly embedded performance boost, and is available as Windows DLL and Linux (Ubuntu and CentOS) shared object versions. ScreenPro Core is one component in Global Graphics' complete suite of workflow software.

Global Graphics' suite of software is a completely open system, allowing you to pick and choose the components that will add the most value to your workflow solution now, and with the ability to add additional components later, as your requirements develop. Additionally, ScreenPro Core provides an easy upgrade path to the Direct™ product range for full image pipeline integration and even higher performance, all without changing any of the quality or look and feel of your printed output.

Flexible tuning and customization options

ScreenPro Core supports both single-pass and multi-pass printers, and is supplied with Advanced Inkjet Screens™ , a standard range of performance-optimized screens, supporting a wide range of different applications and press configurations straight out of the box.

With ScreenPro Core you can configure multi-level screens for virtually any number of drop levels and have the flexibility to choose which levels you want to use.

You can create and fine-tune your own linearizations, providing smooth transitions between drop sizes and improving color profile fidelity.

Finally, to truly differentiate your product, add PrintFlat™ print quality optimization technology and take advantage of our Custom Screen Design Service which is ready to design a bespoke screen to the exact requirements of your printer and application.

GLOBAL GRAPHICS®
software

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