

DIGITAL TEXTILE PRINTING



TEXTILE PRINT



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Adobe PDF Print Engine



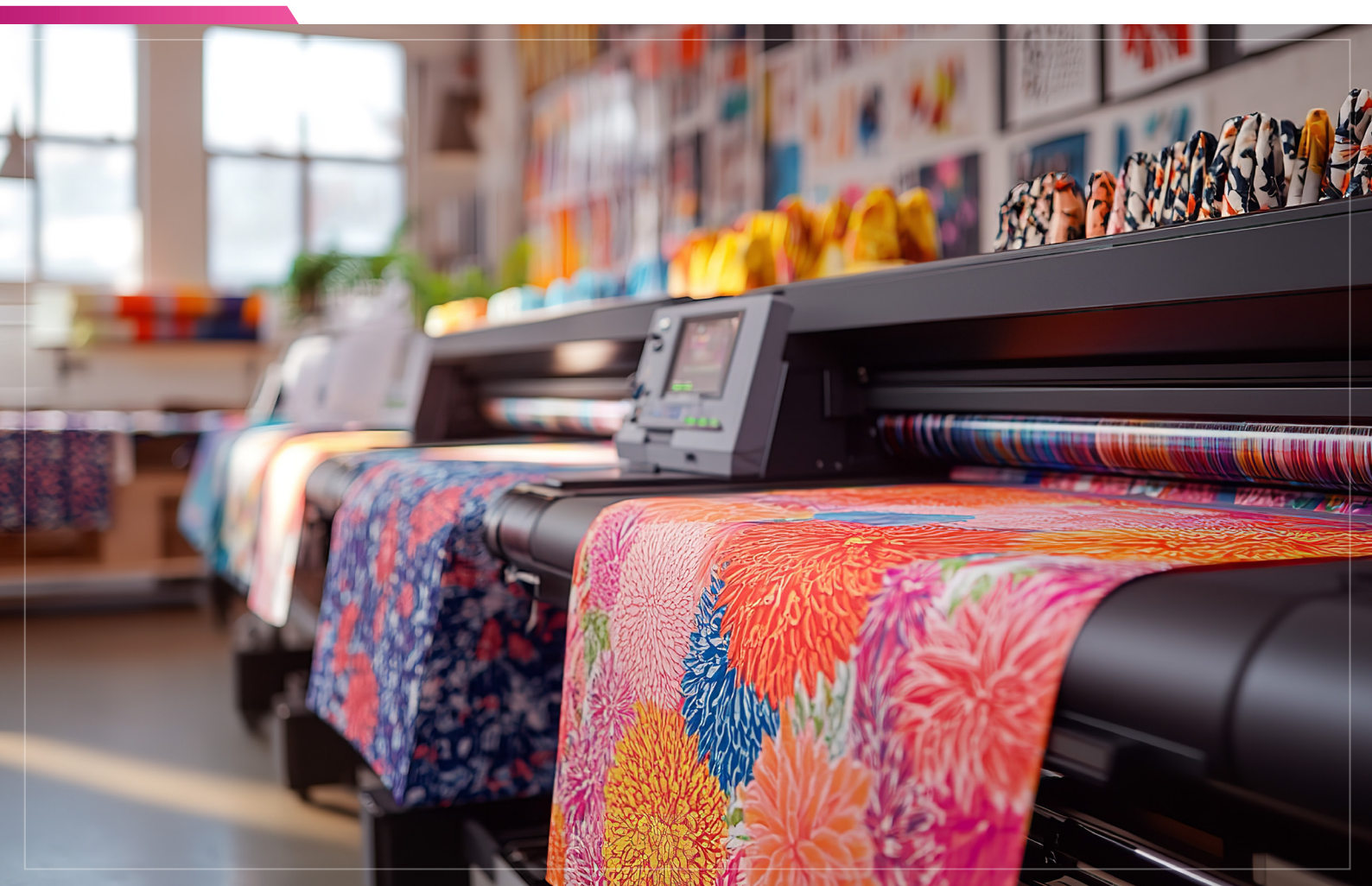
Key highlights:


- › Get digital textile printing done with Adobe
- › The EPSON story
- › Get ready for a digital printing future



Adobe has been transforming the world of printing and graphic design since the 1980s. Be it for large or small format applications, Adobe's wide-ranging portfolio has played a critical role in the evolution of printing industries, including textiles. In the last two decades, following the emergence of inkjet technology and Adobe's design-to-manufacture workflow, the textile printing market has evolved. This end-to-end workflow comprises the Adobe PDF Print Engine, Adobe PDF, and various creative software solutions, including Photoshop and Illustrator.

Since its inception, Adobe has become synonymous with reliable, repeatable, quick, cost-effective, and efficient printing. So much so that it has become the default printing software across the majority of printing industries: this is slowly becoming true for the textile printing industry too.





Adobe originally created the Portable Document Format (PDF) to present and exchange documents reliably. Adobe PDFs look exactly as they were intended to and preserve all the data in the original file format even when color, artwork, mixed content, metadata, and more are combined in a single file. For this reason, the PDF is the most trusted file format for printing around the world, and it is increasingly popular in all digital textile printing workflows.

OEMs that produce digital textile printing devices and digital front ends – along with brands, converters, print service providers, and textile designers across the digital textile printing landscape – are adopting the Adobe offering as standard.

This is because Adobe's market-leading print solution, the PDF Print Engine, continues to address the growing needs of the inkjet textile printing market. Competing with analog processes in terms of speed and cost per square meter has been a long-term ambition of digital textile printing OEMs and, thus far, PDF Print Engine (RIP software) has been a weapon that the industry has used to its advantage. The technology has been a triumph and it has directly improved the performance and efficiency of both low and high-volume inkjet textile printers.

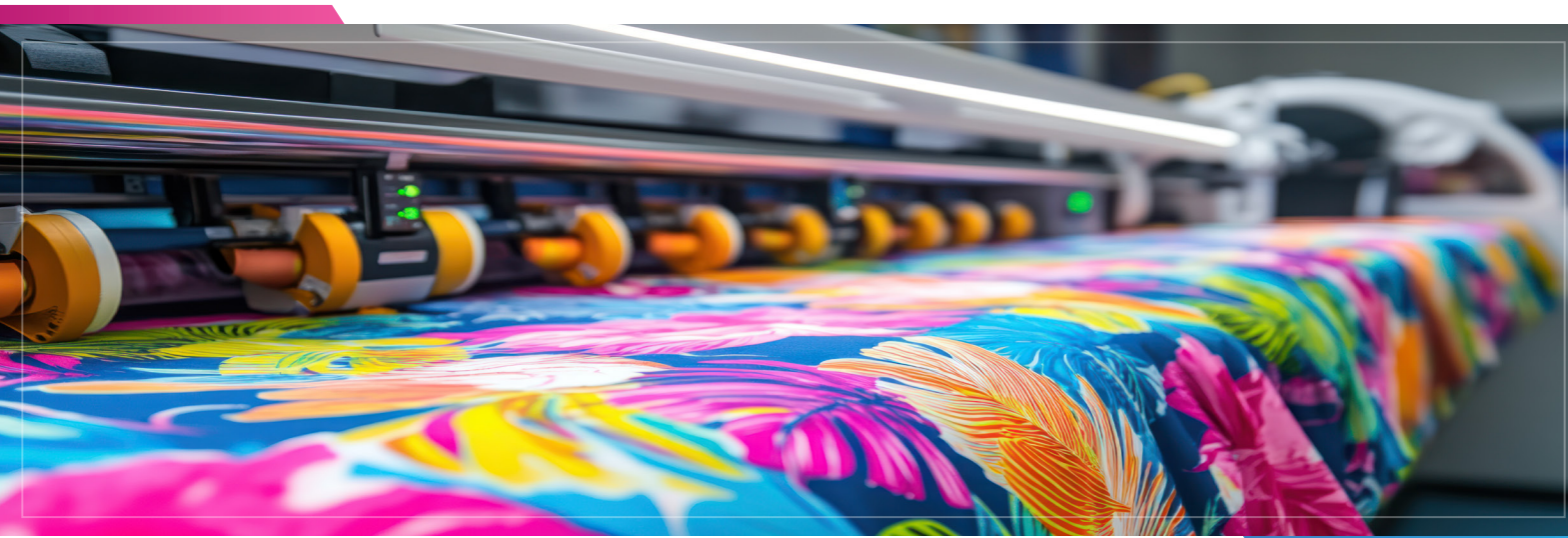
PDF Print Engine can reproduce prints of any color, size, or grade, particularly when paired with Adobe PDF. It employs the same core technologies as those in Adobe Photoshop, Illustrator, and Acrobat. Everyone along the textile printing value chain benefits when the end-to-end design-to-manufacture workflow employs the same core technology at every stage, from design to approval to final output, not least the printing technology OEMs.



The Technology: A Seamless Workflow

So how does the technology work? How is it integrated into printing technology and why has it fast become the go-to software for textile printing?

Adobe PDF Print Engine is the industry's leading rendering technology that maximizes print potential. It powers the textile inkjet printing workflow in a way that benefits original equipment manufacturers (OEMs) for a variety of reasons – including improved reliability, speed, functionality, and interoperability to name but a few.




The software is easily integrated into digital textile printers (new and existing) and once incorporated, the RIP software can optimize printing, taking color management and workflow efficiency in its stride, with no effort required from the user.

The technology's end-to-end textile workflow includes a number of stages: Create, Manage, Print, & Make. Importantly, the same core technology is used throughout the entire Adobe workflow to maximize on reliability, efficiency, and usability. For example, if the same core technology is used at the original design stage of a print, and at the printing stage of the process, the final print output on the substrate will mirror the original design exactly. This consistent output is guaranteed whether a textile printing machine is geared towards mass production, or is a low-speed, short-run sampling machine.

Adobe PDF underpins all of these stages (Create, Manage, Print, & Make) along the printing workflow with its ability to preserve information in its original form. The PDF format for the use of textile printing is the same as that used for all other PDF processes, other work-related tasks, leisure activities, and home life. The PDF is already embedded into the other aspects of our lives – so why not the textile printer? There is something reassuring about familiarity, especially when it has proven itself time and again.

There are several key benefits to the core PDF technology that make it the ideal solution for a successful textile workflow – whether it's roll-to-roll, direct-to-garment (DTG), or cut & sew. These include the advantage of working from a single artwork file (that can be reproduced in different sizes and irrespective of fabric width). This creates efficiency on file size, with reproducibility at any grade or scale. It also means resolution remains stable and true to form as an image can be reproduced across any printer. This is because each printer using the Adobe core technology receives the same information, with identical information density. As a result, PSPs are not limited to one way of manufacturing, printing in one way or another – for instance direct-to-textile or using transfer paper – with a certain printer. Print service providers can branch out to other machines, perhaps with a lower or higher speed, or, as stated, different types of printing that may traditionally require alternate settings.






The effective color communication between the Adobe technologies allows for color consistency and repeatability across fabrics, thus increasing the efficiency and reliability of a print run. It also removes ambiguity and uncertainty, keeping color to a standard. Print service providers are increasingly looking for printers that provide color efficiency and OEMs that provide guaranteed dependability to eradicate loss of revenues due to failure to manage color consistently. In the textile and apparel industry, resources and time are valuable, with margins minimal. Therefore, print service providers do not just desire stability, reliability, and proficiency. These qualities have become a necessity to thrive in a competitive market.

Adobe understands that traditional color management techniques need to be blended with sophisticated color emulations to ensure colors are accurately and consistently reproduced across multiple fabric types – irrespective of the chosen ink – which the PDF Print Engine supports. Adobe's overriding ambition is to enable textile print service providers to print exactly what the designer produces on-screen, the first time and every time.

Other features within the PDF Print Engine that improve color management include rendering technology equipped with the Adobe Color Engine that can also be integrated with third-party proprietary color management modules (CMM).

Additionally, with Adobe PDF Print Engine, there is one single source of truth with all data conveniently stored in just one file to streamline the print workflow. Adding to this efficacy, printers integrated with Adobe's technology can read the information directly from PDF files. Enhanced simplicity is, therefore, a key benefit of a printer integrated with Adobe's PDF Print Engine. A simple printing workflow brings about speed, resourcefulness, reliability, and a lack of waste through the reduced margin for errors.



The Epson Story

The Adobe PDF Print Engine is already at the heart of many different print operations for a variety of print service providers and the technology also drives a number of cutters in the textile industry.


As a result, OEMs are turning towards Adobe PDF Print Engine to integrate the technology before it gets to the print service provider – increasing the acclaim of its machines. For example, global printing giant Epson has successfully integrated the Adobe PDF Print Engine workflow into its Epson Edge Print technology in its digital textile printers.

Installing the PDF Print Engine at the heart of the printing process can leverage compatibility across the print workflow, Epson has found, which ensures a controlled, optimized, and elevated system that works reliably and efficiently.



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Timothy Check, Product Manager, Professional Imaging, Epson America Inc, says: “With multiple steps from design to production of textile products, it can be challenging to bring the designer’s vision to life. Limitations in the number of colorways, pattern sizes, and engineered designs with specific placement are just a few of the challenges faced.”

He continues: “Epson has been leading the transition to digital textile printing for nearly two decades, helping textile producers with numerous innovations. With the Adobe/Epson solution, a virtually unlimited range of colors can be produced without size constraints, and print production can be done in a cost-effective and sustainable manner.”

Epson recently introduced Epson Edge Print PRO workflow software that features Adobe’s PDF Print Engine at the core. He says with the Edge Print PRO workflow: “Design files can be reliably shared between designers and producers with confidence that the designer’s vision will be faithfully produced on fabric.”

This alliance has helped Epson’s offering become one of the most competitive within the digital textile printing space. Meaning Epson has developed a more attractive proposition as an original equipment manufacturer and supplier to print service providers.



Future

The digital textile printing market has grown on average by 20% year-on-year since 2015, according to WTiN Digital Textiles. And looking to the future, digital textile printing is expected to continue to increase its market share at the expense of screen printing.

The clarity and sharpness of the printed image from digital textile printers, alongside the versatility it affords businesses to cost-effectively shift production seamlessly to high-demand products, are among the reasons the market is accelerating. The Adobe offering supports this growth and will continue to help manufacturers with improved machinery in the years to come. WTiN forecasts that the textile inkjet market will see an average growth rate of 12% up to 2030 – opportunities are out there.



By partnering with Adobe for their software needs, OEMs are not only creating incredible customer experiences but also implementing efficient technology, employing reliability and expertise, and are future-proofing their business through successfully navigating digitalization. Ensuring the print workflow is seamlessly integrated, Adobe PDF Print Engine brings data and content together effortlessly, transforming print systems and preparing them to reach their business goals.

At its heart, the Adobe PDF Print Engine enables printers to be their best version. Bringing printers into the Adobe workflow enables an optimized end-to-end design-to-manufacture solution that seamlessly encourages reliability, accuracy, repeatability, value, versatility, and enhanced performance.



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For more information on how Adobe is powering digital textile printing workflows,

Contact us at: textileprinting@adobe.com

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