

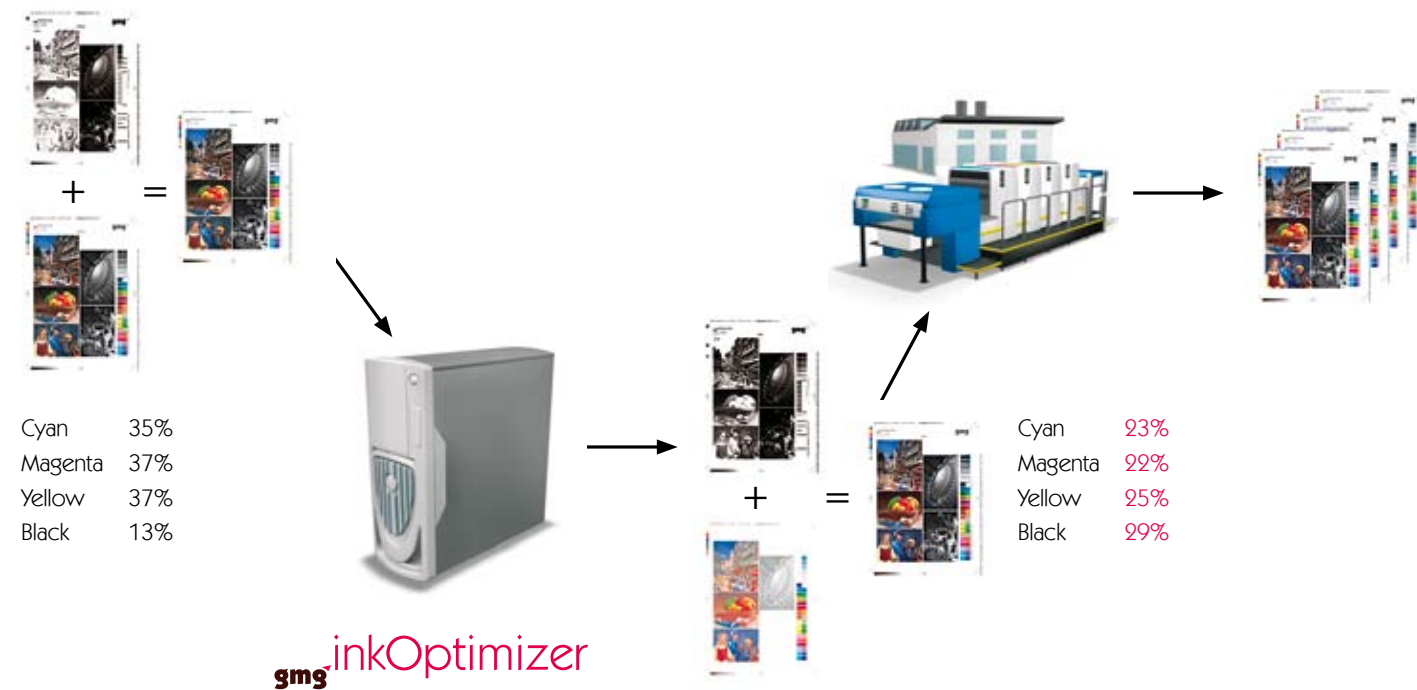
GMG InkOptimizer Workflow

PDF workflow

With GMG InkOptimizer's easy to operate user interface, it's easy to set up workflows and configure jobs.

GMG InkOptimizer is easily and quickly integrated in existing PDF-based workflows. PDF files can be received from most commonly used workflow systems – such as AGFA Apogee, Creo Prinergy or Heidelberg Prinect Printready – optimized and returned, automatically. With 'PDF-to-PDF' optimization, the structure of the PDF file remains consistent. Only image or text element colors are optimized.

GMG InkOptimizer can be conveniently and easily adapted to the requirements of the workflow via 'PDF-to-PDF' hot folders. A wide range of parameters permits hot folders to be individually configured to match the specific workflow requirements. Using a powerful file filtering function driven by the file name, different settings can be applied to reduce colors. As soon as a hot folder is created, it is available on the user's network, and InkOptimizer performs its work automatically in the background, without any user intervention.



Data formats

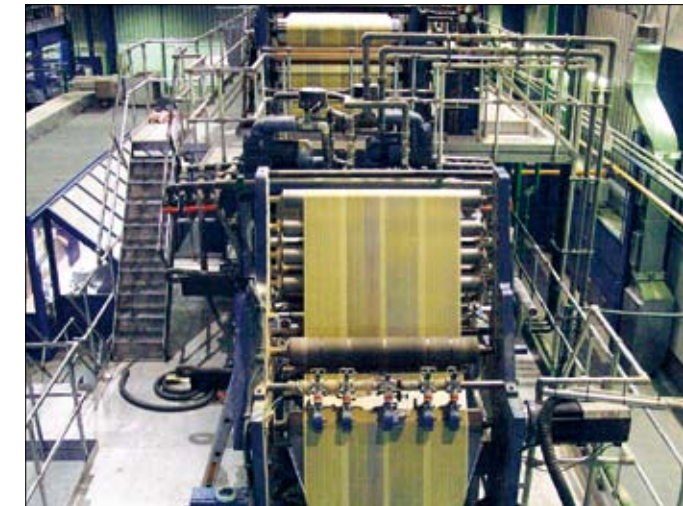
With the ergonomically designed user interface, it's easy to intuitively select data formats to be processed, and color reduction profiles to be applied. All industry-standard data formats are supported, from TIFF, TIFF-IT, JPEG, EPS (Photoshop pixel data) and CT/LW, to PDF (up to version 1.4). PDF data is transformed without format conversion, because images and graphics are handled separately. Different rules for handling contone and linework data are also possible.

As a result, GMG InkOptimizer can process both individual images (such as TIFF or JPEG) and complete pages (such as TIFF-IT or PDF), and reduce the color within images. Colors are always transformed automatically, and the original file name is either retained, or renamed based on defined file name conventions.

Reducing ink volumes while improving print quality

Einsa Print International, a directory printing company and leaders in their market, were the first to install GMG InkOptimizer in Spain.

"We needed to find a solution which would allow us to further enhance the printing process, while at the same time improving quality and performance. After analyzing a number of different options, it was clear that GMG InkOptimizer was a suitable and reliable solution," remarked Francisco Mayo, the company's head of prepress.



Test period

To ensure the product would meet their requirements, an extensive production evaluation and test was conducted over a six-month period. "Throughout this test phase, we carried out an in-depth check into its printing quality and ink consumption. During this time we also found and quantified other unforeseen benefits such as shorter drying times for sheet-fed offset printed work. These tests were carried out on a number of newspaper presses (KBA C-214, KBA C-618, KBA C-818, Heidelberg Sunday 4000), as well as a number of different print products: such as magazines, catalogs, and leaflets. The results were excellent and exceeded our expectations in all tests," according to Mayo.

Dealer's stamp



The integration of GMG InkOptimizer within the company's workflow was easy and straightforward. "Our workflow is based on the PDF format, so integration with GMG InkOptimizer was fast and seamless. 'Hotfolders' within the software were configured so the file optimization process was automatic. Optimized files from the hotfolders were picked up by our workflow, allowing complete automation without altering our previous workflow system," commented Francisco Mayo.

Benefits

The results of InkOptimizer in live production match those of the production tests. The greatest benefit has been the reduction of ink costs, as GMG InkOptimizer has enabled Einsa to save up to 25 percent on ink volume. The reduced ink consumption has improved the overall production process as well. "The fact that there is actually less ink on the paper has led to other related advantages: press make-ready is faster, with color coming into balance faster with less waste. Additionally, the reduction in ink volume shortens drying times, improves print quality, and allows for much faster production speeds," noted Francisco Mayo. Along with these benefits, GMG InkOptimizer has improved production workflow. With the personalized profile capabilities, Einsa set up customized parameters for each client, allowing optimization based on the printing technology type, paper stock, ink, and printing conditions. "Although we always try to use standard profiles, the software has added an extra element of customer service by allowing us to create personalized profiles matched to the characteristics of the work at hand. Not only that, but within each profile, three levels of ink reduction can be selected," affirmed Francisco Mayo.

About Einsa

Einsa Print International, which belongs to Grupo Einsa, is currently one of the major producers of telephone books and directories for large companies throughout Europe. With its headquarters located in As Pontes and Andrades (A Coruña), the company's growth and evolution over the years has gained it a privileged position within its sector, both in Spain and overseas. Cities such as Athens, Paris, London, Vienna, Madagascar, Helsinki, Sao Paulo and Tel-Aviv are among Einsa's clients.

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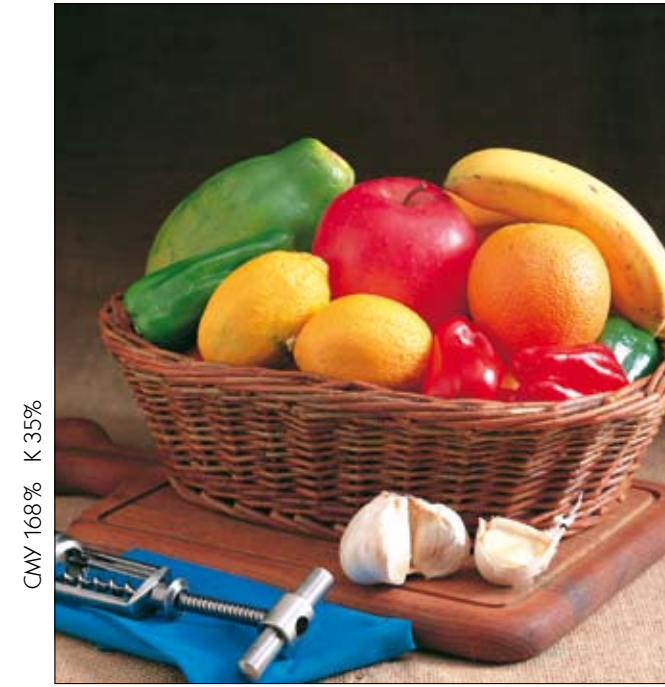
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gms inkOptimizer

Reducing ink use and costs
while improving print quality

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Original with GMG InkOptimizer



What is GMG InkOptimizer?

GMG InkOptimizer is a software solution for fully automatic ink reduction. Using sophisticated color reduction algorithms, a DeviceLink transformation (CMYK-to-CMYK) is applied to individual images or entire pages. The amount of CMY inks used is reduced, and the proportion of black ink simultaneously increased, while maintaining identical color reproduction. In doing so, InkOptimizer is able to maintain gray balance. There is no difference between the 'before' and 'after' image, either visually or colorimetrically (Delta E approaches 0). Incorrect GCR/UCR settings in the printing data are corrected and optimized through a re-separation process.

This correction process substantially enhances color stability, and also printability, in production printing.

GMG InkOptimizer complies with printing standards while optimizing printability, and reducing ink consumption by reducing color. Thus, InkOptimizer reduces costs significantly and provides a printer a decidedly competitive advantage. InkOptimizer is particularly effective for gravure, web offset and large sheet-fed offset printers. It is already being used successfully around the world by major printers who enjoy a return on investment within just a few months.

Support of international standards

For production within the tolerances of international standards, existing InkOptimizer standard profiles can be used (ISOcoated 27L, ISOwebcoated 28L, ISOuncoated 29L and PSR_LWC). Data from incoming files can be checked and optimized using standard reduction profiles. Image areas lacking a primary color (C, M or Y) do not undergo color reduction.

Like the human eye, GMG InkOptimizer profiles are highly sensitive to gray balance. The gray balance is significantly stabilized in production printing, resulting in consistent color in the gray areas and, additionally, in other 'neutral' colors, such as brown and olive shades.

With an optimized separation, the color match between the press sheet and the supplied proof is achieved rapidly, resulting in faster make-readies, less paper waste, and easier, more stable printing on press. Because the amount of ink on press is reduced, it takes less time to get the colors right, drying times and press operation are improved and, with certain papers, press speed can even be increased. GMG InkOptimizer is very easily integrated into existing workflows when implemented within printing operations working with international standards specifications. Outstanding results are achieved quickly and inexpensively.

Individual profile creation

Unlike working with standard profiles, customer-specific printing conditions are characterized by the creation of individual profiles. Typically, a test form is created that is adapted to the specific printing environment. This test form is used as a basis for specifying data characterizing the printing conditions (press, paper, etc.) and reference images. Three levels of color reduction profiles are created on the basis of these individual characterizations. These profiles differ in terms of the degree of GCR/UCR, or color reduction (high, medium, or low). These custom profiles may also take into consideration specific customer requests. Using GMG's DeviceLink technology, individual areas

in the color space can be specifically corrected, and the degree of GCR/UCR can also be selectively controlled – for example, by reducing under color removal in skin tones or using different re-separating settings for the shadows. GMG's DeviceLink technology delivers the best of both worlds: compliance to the printing condition and incorporation of the customer's preferences. Printers throughout the world are successfully using GMG InkOptimizer – realizing significant cost savings and maintaining their printing standards at the same time.