



ScreenPro™ with PrintFlat™ technology from Global Graphics Software removes banding on large-format posters for Ellerhold Group – achieving 100% customer satisfaction and increasing the company’s market share of outdoor advertising products in digital printing.

THE CHALLENGE

Germany-based printing company Ellerhold Aktiengesellschaft wanted to enhance the printing quality of its large-format posters from its MLM_2600_NG digital printing machine, developed and built by its manufacturing subsidiary, Ellerhold Maschinenfabrik GmbH. Specifically, the printheads showed variation in printed density both between the heads and across each head, which produced clearly visible bands within some types of printed output.

This is a competitive market: large-format posters, known in Germany as Mega-Lights, are the most popular advertising medium in the country, with around 450,000 premium billboard posters on display in Germany every year. As brand owners demand exceptionally high quality, the need to produce consistently high-quality output is essential.

KEY FACTS

- Ellerhold AG is the leading poster printing house in Germany with around 70% share of the premium billboard poster market
- Ellerhold prints all large-format posters with its MLM_2600_NG digital printer
- Ellerhold operates 6 MLM_2600_NG double side 2.5 m wide scanning head web systems for printing 200 x 252 dpi billboard displays.

Frank Ellerhold, founder of Ellerhold Aktiengesellschaft, comments:

“ Certain jobs were worse than others. We knew the problem lay in the fact that the printheads were not balanced. We had seen Global Graphics Software’s Martin Bailey introduce ScreenPro at The Inkjet Conference in Düsseldorf and believed this new technology might be the answer to this problem. ”

THE SOLUTION

Under the guidance of Andreas Keller, managing director of Ellerhold Maschinenfabrik and responsible for the development of the MLM digital printing press, Global Graphics Software’s Technical Services team worked with Ellerhold’s process engineer, Patrick Prezewowsky, to enhance the quality of the printed output using its award-winning technology, ScreenPro. A very fast and efficient multi-level screening engine that mitigates artifacts such as streaking and mottling from the inkjet print process, ScreenPro can be used in any print workflow, including Adobe®, Caldera, Esko, EFI and Sofha, with any combination of inks, substrates, printheads and electronics.

The team used ScreenPro’s PrintFlat technology to smooth out the banding present on Ellerhold’s large-format posters. PrintFlat corrects for density non-uniformity, which results in banding commonly caused by variation within a printhead or between printheads and is very time consuming to correct in hardware.

In ScreenPro every nozzle can be addressed separately on any head/electronics to achieve very fine granularity. PrintFlat adjusts the density within ScreenPro to produce uniform density across a print bar.



Banding problem on sensitive jobs



Before



With PrintFlat

The process can be automated for closed-loop correction and, unlike correction by adjustment of voltages, there is no effect on jetting stability or head lifetime, nor ink pressure and timing/drop speed variation.

The Technical Services team carried out tests, analysed the scanned prints and created a PrintFlat calibration workflow for the MLM_2600_NG designed to compensate for the non-uniformity in output across the print bar (poster width). The team also used a variant of Global Graphics Software's Advanced Inkjet Screens™ (AIS), available with ScreenPro and the Harlequin RIP®, which they adapted specially for scanning-head systems. These proved very effective.

The Technical Services intervention was headed up by Dr. Danny Hall, developer of the Advanced Inkjet Screens and Global Graphics Software's chief screening scientist:

“ The project brought many unique challenges. As it was a multi-pass process – we needed to efficiently capture repeating density variations across the entire print area in an unbiased way. The project confirms that PrintFlat is a significant enabling technology, allowing the uniformity typical of analogue printing to be achieved routinely on a wide range of digital presses. ”

THE RESULT

Now Ellerhold's process engineer uses Global Graphics Software's online inkjet press calibration service, printflat.com, to upload the scans and automatically receive the correct calibrations so he can go ahead and print. The PrintFlat.com service is available to registered users who upload their PrintFlat scans and receive the calibrations they need to run their inkjet press at optimum quality.

Maximilian Ellerhold, CEO, Ellerhold Aktiengesellschaft comments:

“ We're looking forward to having ScreenPro and PrintFlat on each of our presses. Now, when the quality was 'not passable' for difficult jobs, for example images with lots of blue sky, it is now very acceptable, even for the most difficult jobs. Any residual visible banding has been removed. We're now achieving 100% customer satisfaction and have increased our market share of outdoor advertising products in digital printing. ”



The screenshot shows the PrintFlat website interface. At the top, there is a navigation bar with 'PrintFlat Home' and 'Log In'. The main heading reads: 'An on-line inkjet press calibration service for inkjet press vendors from Global Graphics Software'. Below this, a sub-heading states: 'Registered Users log in to upload their PrintFlat scans from and receive back the calibrations they require to achieve optimum quality for their inkjet press. Please log in to use the PrintFlat Online calibration solution.'

The page is divided into three columns of text:

- What is PrintFlat™?** PrintFlat is an innovative new technology that reduces non-uniformity across the web, commonly caused by variation within a head, between heads or wear on the heads. It can be applied to almost any workflow by ScreenPro™, the ultra-high speed scanning engine from Global Graphics Software and can be used in any print workflow with any combination of inks, substrates, printheads and electronics.
- How does PrintFlat work?** In software every nozzle can be addressed separately on any head/electronics to achieve very fine granularity. The process can be automated for closed-loop correction and, unlike correction by adjustment of voltages, there is no effect on jetting stability or head lifetime, nor ink pressure and timing/drop speed variation.
- How do I use the service?** This service is available to registered users who simply log in with their credentials, upload their PrintFlat scans and receive the calibrations they need to run their inkjet press at optimum quality. If you'd like to explore using this service please contact: printflat@globalgraphics.com

Below the text is a diagram showing a grid of dots representing a print head. A blue arrow labeled 'ONE HEAD' points to the right across the grid. A vertical blue arrow labeled 'DENSITY' points upwards from the grid.

At the bottom of the page, there is a 'Global Graphics Software' section with a brief history and a 'Contact' section with the following details:

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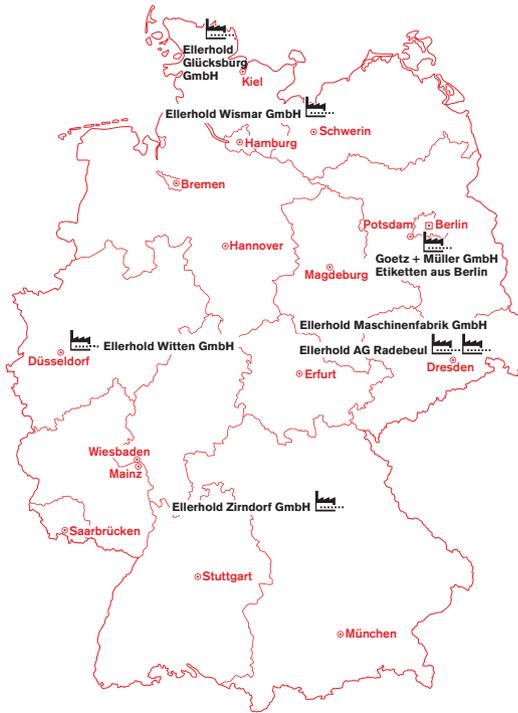
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ABOUT ELLERHOLD GROUP

Germany-based family business
 Ellerhold Aktiengesellschaft
 specialises in XXL Point of Sale
 display products, labels and packaging
 and is the market leader in printing
 posters for indoor and outdoor
 advertising.

Ellerhold Maschinenfabrik develops
 and manufactures special presses for
 multiple industrial applications.

With its headquarters in Radebeul
 near Dresden, Ellerhold has seven
 manufacturing sites in six locations
 in Germany, along with sales offices
 throughout Europe.



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