

Complete in-line solution by Grünig and SignTronic due to their modular concept

TWO COMPANIES – ONE VISION

Sandra Wörle, Bachelor professional screen printing / Marketing Grünig and SignTronic, outlines the need for automation and standardisation to simplify screen printing

Until recently, screen printing has been one of the most widely used finishing methods. This application – despite expectations and prognostics – has been refined and improved. More and more, companies set their stakes on this printing process or find the best results using serigraphy screens.

WIDE-RANGING USES

The areas in which this printing method can be used are as wide ranging as the procedure itself. These include automotive, glass, solar panels, one-way and reusable products, textile or porcelain items, sensory systems and even the ski industry. Two areas that are particularly interesting are high-quality decoration and functional printing. However, these processes require sophisticated and standardised processes. Standardisation and automation in the printing industry play an increasingly important role, particularly in the light of the challenges to meet Industry Standard 4.0.

A large number of screen-printing users encounter limits in the application of the screen-printing method. Old procedures, involved steps such as conventional film exposure, manual screen coating or cleaning – as well as manual screen development. These are all extremely time consuming and cost intensive. In addition, the considerable lack of personnel is one of the main factors influencing the decisions that today's printing companies have to face.

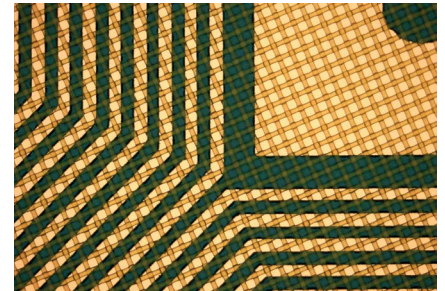
PRINTING INDUSTRY REQUIREMENTS

The printing industry needs to stabilise processes, improve quality and achieve reproducible results. Maximum cost efficiency, minimum time expenditure and fewer employees also play an important role. SignTronic AG and Grünig-Interscreen AG, have been dedicated to solving issues of standardisation and automation. Both companies believe that the answer is to simplify screen printing, with the objective of keeping the screen-making process less personnel intensive and more economical, without compromising screen quality.

AUTOMATION AND SIMPLICITY

Grünig emphasises automation. For more than 55 years, the company has specialised in screen printing. Grünig is conscious of how these individual steps can be improved and simultaneously simplified. The business is in a position to supply the entire range of equipment, from in-house developed coating systems, stretching devices, developing machines and screen-washing plants to fully automated in-line systems. Grünig provides all the support and assistance necessary to help printers achieve the perfect screen. The company believes that the only way to achieve this goal is to automate and stabilise processes, and minimise production times, without increasing costs.

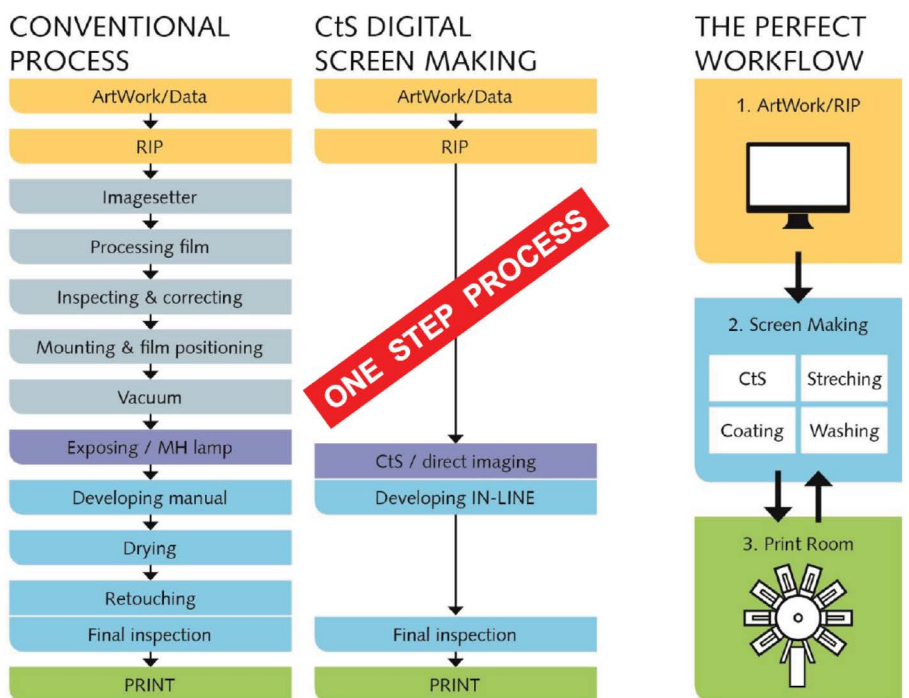
The state-of-the-art Grünig equipment can be easily integrated to meet the latest requirements related to Industry Standard 4.0. Thanks to its own user surface, the company offers the user complete monitoring of the individual machines and process steps.



A detailed image of a screen – precise sharpness of the emulsion is ensured thanks to CtS direct exposure by SignTronic

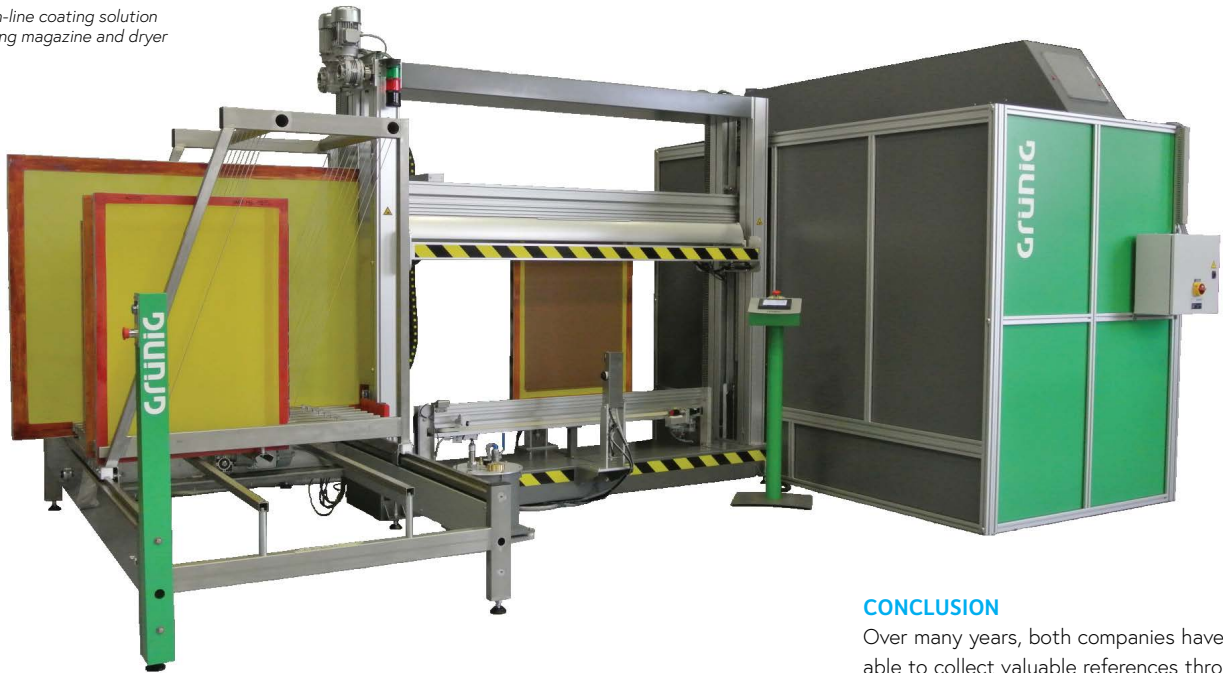
Specially developed software allows evaluation of the data, while offering a detailed survey of the degree of utilisation of the installation, filling levels of the involved chemicals as well as any possible processes that might arise.

Thanks to the modular concept – systematically applied by Grünig – the company is in a position to implement virtually all the requirements of its customers and handle any required screen size.



SignTronic's CtS workflow

Grünig's in-line coating solution with loading magazine and dryer



“The areas in which this printing method can be used are as wide ranging as the procedure itself”

The close collaboration with SignTronic, enables Grünig to offer its customers holistic, In-line solutions which, thanks to the integration of Computer-to-Screen (CtS) direct exposure equipment, allows exposure of the image to be printed in a single procedure. This means that the process can be completely automated and standardised.

COMPUTER-TO-SCREEN TECHNOLOGY

For more than 20 years, SignTronic AG has dedicated itself to CtS technology. The in-house designed, high end, direct-exposure systems are built at the Rüthi production site to a high quality. The systems manufactured in Eastern Switzerland are also based on the modular concept method. This means that the partly huge plants can be operated either

as stand-alone systems, be integrated into existing developing plants or be offered as complete in-line solutions.

The latest development from SignTronic – the LED_Q4 technology – allows definition of up to four wave lengths (365nm, 385nm, 395nm and 405nm). Thanks to the different resolutions (1270dpi as standard or the optional, high-resolution upgrades HR1, HR2 or HR3), up to 3,040dpi can be directly exposed to the screen.

SignTronic also offers its own software products, including the ST-PRINT, developed in 2019, in order to guarantee an even simpler production of systems and screens. To help operators further, the in-house developed RIP software offers all the necessary functions for ease of preparation and conversion of data for the exposure process.

CONCLUSION

Over many years, both companies have been able to collect valuable references through installations implemented in virtually all the screen-printing application areas globally. They have proven again and again that the key issues in this field are not just state-of-the-art printing machines and high-tech production sites, but the knowledge that the quality of screen printing will only ever be as good as one of its preliminary processes. For this reason, Grünig and SignTronic are dedicated to assisting printers on their way to achieving the perfect screen. ■

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In-line solution with CtS direct-exposure unit from SignTronic and developing system from Grünig, combined with a loading and unloading magazine

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