

Press release (SATURN)

## **The new technology for decorative paper printing – the SATURN digital printing line**

**Bielefeld, 04/08/2019** – *Decorative surfaces must be produced quickly and flexibly in the desired quality and at a reasonable price. For over a decade, attempts have been made to achieve these goals in industrial digital printing on decorative paper with water-based inks – so far without success. One of the main reasons for this was that neither the machine and plant manufacturers nor the printhead manufacturers applied their respective expertise together to foster industrial development. This has now changed: thanks to the development partnership between Hymmen and RICOH, manufacturers of digitally printed decorative paper now have a strong technology team at their side.*

For more than a decade, Hymmen has been a leading specialist in digital printing in the wood-based materials industry. The more than 40 single-pass machines sold deliver top performance all over the world, reliably maintained by a skilled digital printing team. Extensive process knowledge, automatic color calibration, and full automation are some of the factors that ensure sustainable production at an industrial level. Repeated investments by individual customers attest to the technological performance and profitability of the Hymmen systems (see Fig. 1).

Major challenges in the development of the complex single-pass digital printing technology have already been mastered (see Fig. 2). Hymmen already offers a very solid technology for printing decorative paper with UV-curable inks. However, there are applications where the product cannot be built as required for UV-curable inks. This is where water-based inks come into their own (see Fig. 3). Hymmen's know-how and experience in the manufacture and finishing of wood surfaces as well as its contacts in the flooring and furniture industry make the company an ideal partner for a printhead manufacturer with expertise in water-based ink.

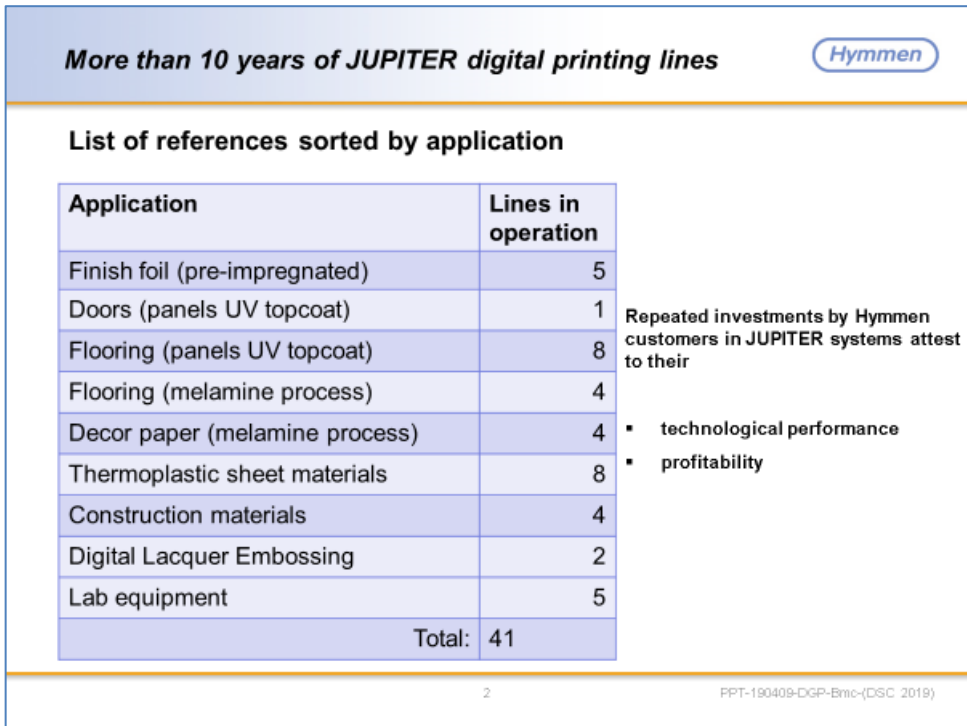
RICOH is a company with branches around the world and has over 40 years of printhead production experience. The RICOH division that specializes in industrial printing is strategically focused on inkjet printing. The core technology comprises printheads with a metal nozzle plate, which are used with a wide range of liquids. RICOH brings the printhead technology for water-based inks into the development partnership. The Colorgate software and the ink chemistry are also contributed by RICOH. Thousands of service employees are already available around the clock worldwide to provide customer support for digital printing equipment.

The RICOH/Hymmen partnership boasts in-depth expertise in digital printing technology, the markets, and process management. With a focus on water-based digital printing for decorative paper, the result of the cooperation between the two companies is set to be a product with the goal of offering “a plug-and-play industrial inkjet solution for the wood-based materials industry.”

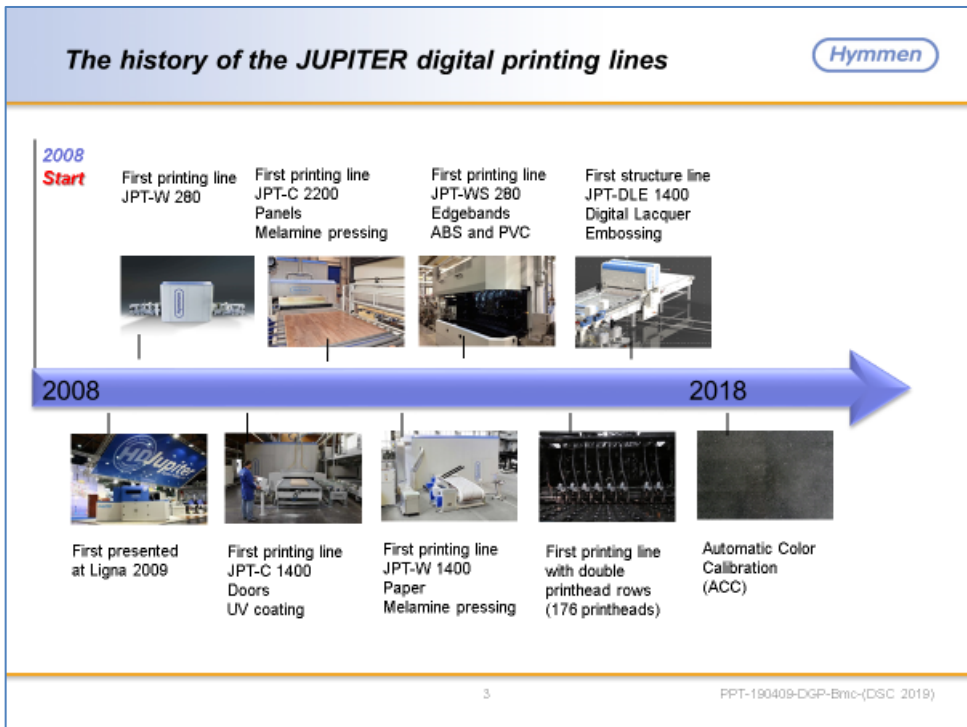
SATURN is an industrial digital printing line that can be integrated into customers' existing production processes. It is a standard machine that offers printheads, ink, and printing at the desired resolution for an affordable price. SATURN guarantees efficient decentralized production at the expected quality level.

The SATURN digital printing line (see Fig. 4) is a breakthrough in the production of digitally printed decorative paper. This system differs from the existing water-based printing solutions in that it is decentralized, more flexible in terms of design for both small and large batches, and not primarily focused on replacing analog technologies with digital ones. SATURN ensures minimal storage of decorative papers through just-in-time production. The entire process in the new facility is much easier than with existing decorative printing equipment. Drying the inks is easier and the printing process is more stable and reliable. Finally, SATURN requires a lower investment volume. Fig. 5 illustrates the main points.

Owing to the partnership between two established companies in the digital printing market and their combined expertise, Hymmen and RICOH are your ideal partners for tomorrow's water-based digital printing.

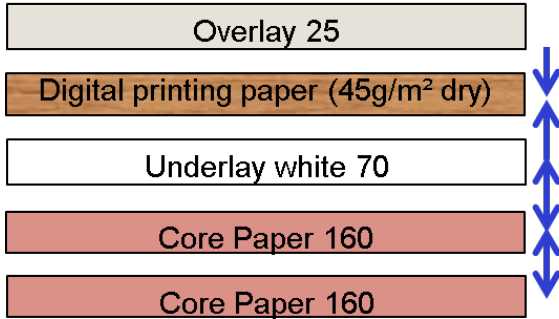


**Fig. 1: Hymmen JUPITER digital printing lines list of references sorted by application**



**Fig. 2: The history of the JUPITER digital printing lines**

Product structure for UV inks



Product structure for water-based inks

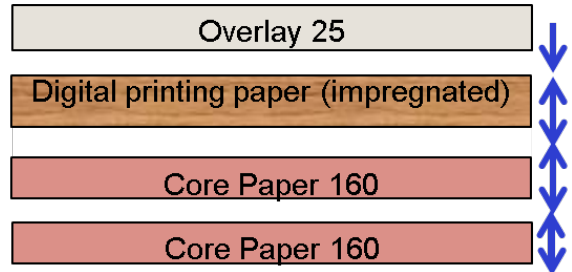



Fig. 3: Product structure for digitally printed decorative paper

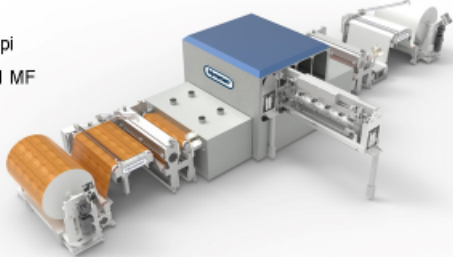
**The Hymmen SATURN digital printing line**



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**Technical data**

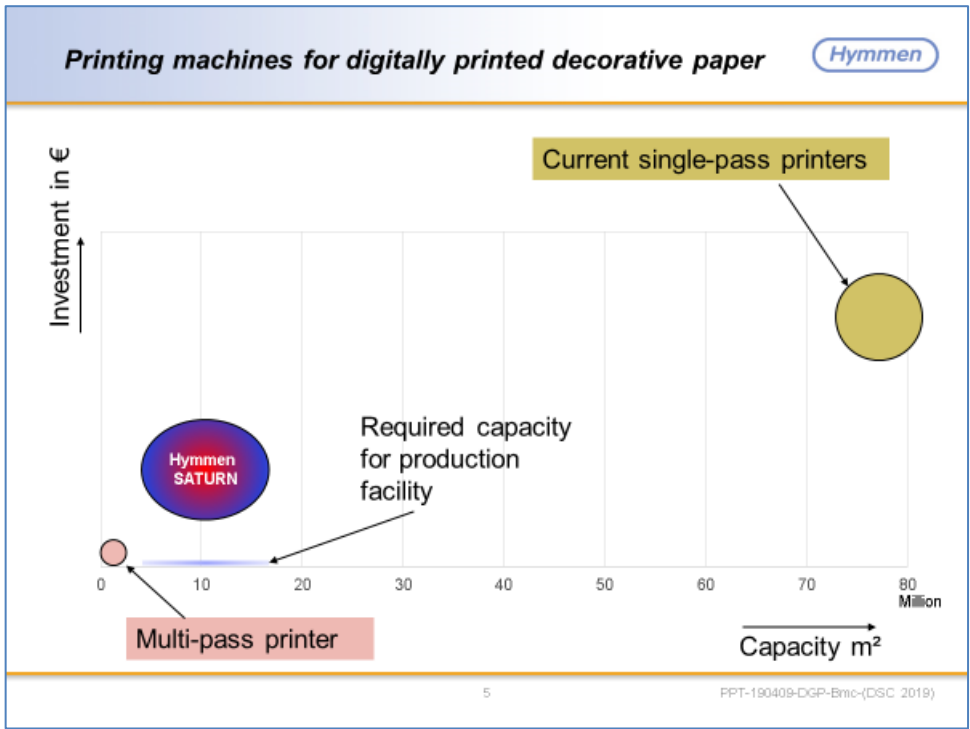
- Printing speed                    15 - 35 m/min
- Effective working width        700 / 1,400 / 2,300 mm
- Printing color system         standard 4 colors CMY  
expandable to 8 colors
- Additional colors                bright colors and special colors possible in the future
- Ink system                         water based
- Resolution                         600 or 1,200 dpi
- Printhead type                    Ricoh MH5421 MF



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Fig. 4: The SATURN digital printing line for water-based inks



**Fig. 5: Printing machines for digitally printed decorative paper**

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