



... for a colourful future



Process Colour Printing on Carpet

MADE IN AUSTRIA



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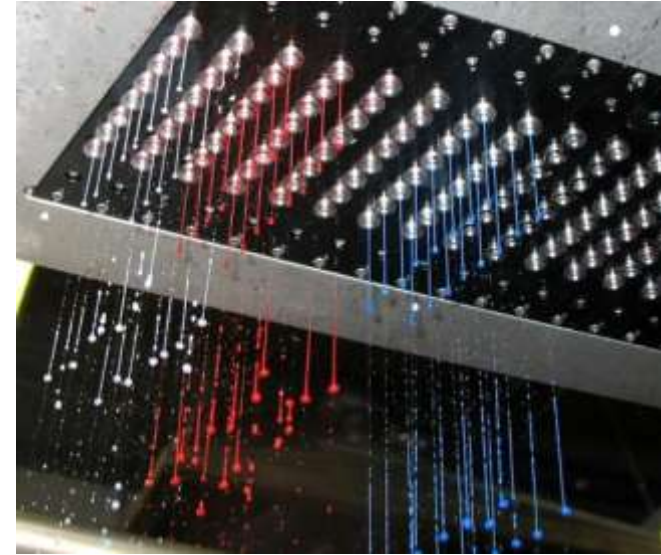




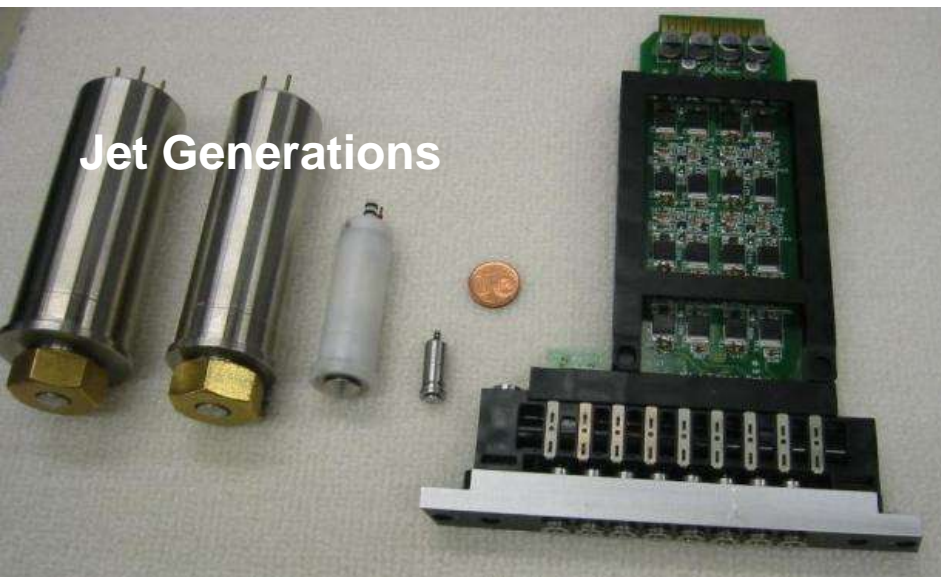
- ChromoJET is a modular family of printing systems based on valve technology
- Built according to demand in respect of print width, number of colors and production speed
- For many types of applications:
Tiles, mats, bath-mats, rugs, contract carpet, residential carpets, acrylic blankets, artificial fur, terry towels, upholstery, automotive, ...
- 2008 about 120 mio m² of carpet was printed on ChromoJET



- Jets are electromagnetically opened and closed
- Dye-jet is formed by a nozzle.
- Different nozzles for different applications
- Colour is pressurized (1-3 bar) and supplied from a pump- and filter-system directly to the jets

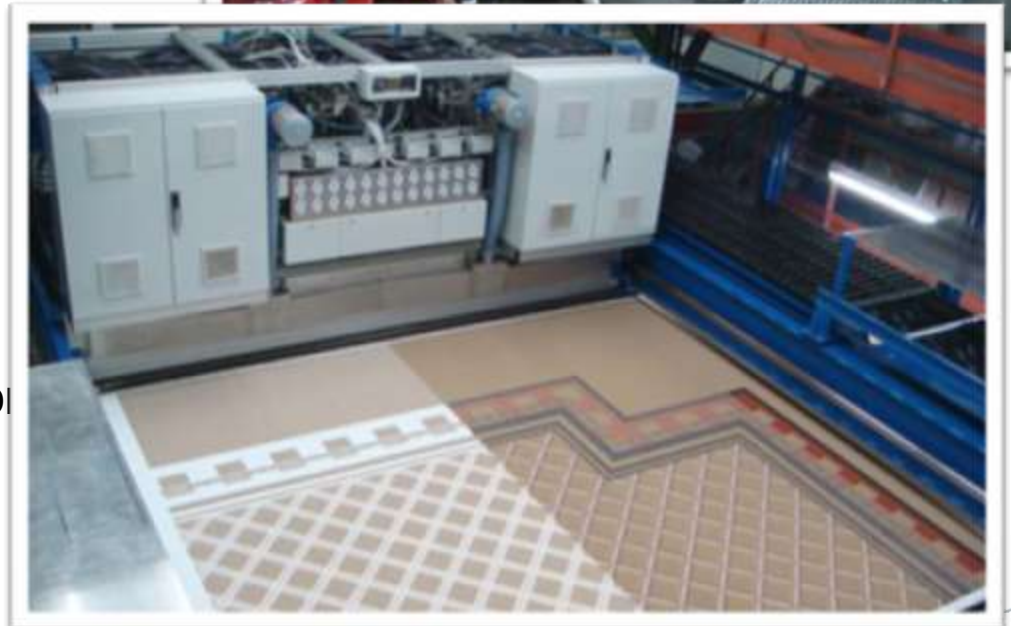


- Jets are arranged in groups on a moving print-head which traverses the carpet – like a shuttle
- Number of jets per group determine the production speed
- Up to 16 color-groups are arranged per print-head



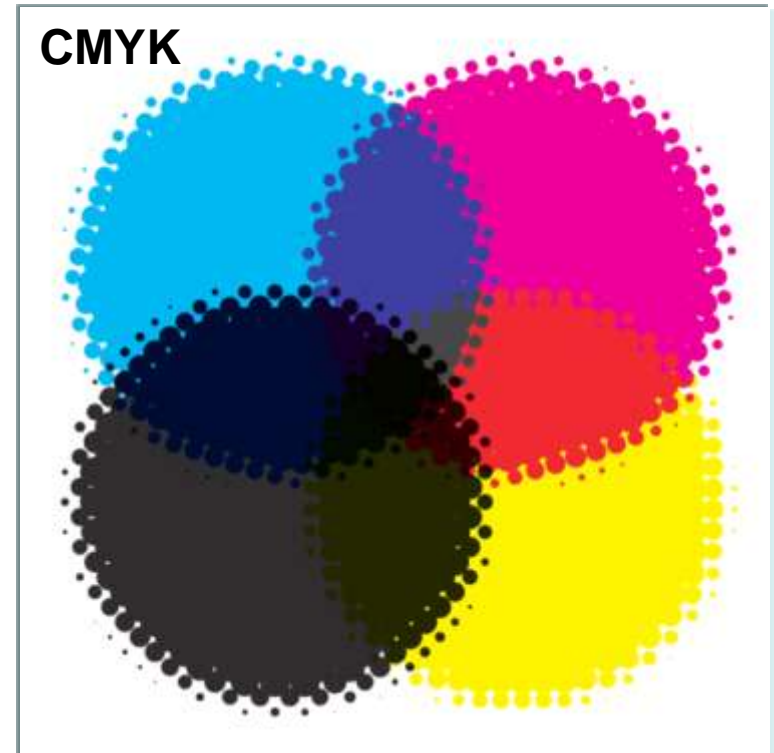
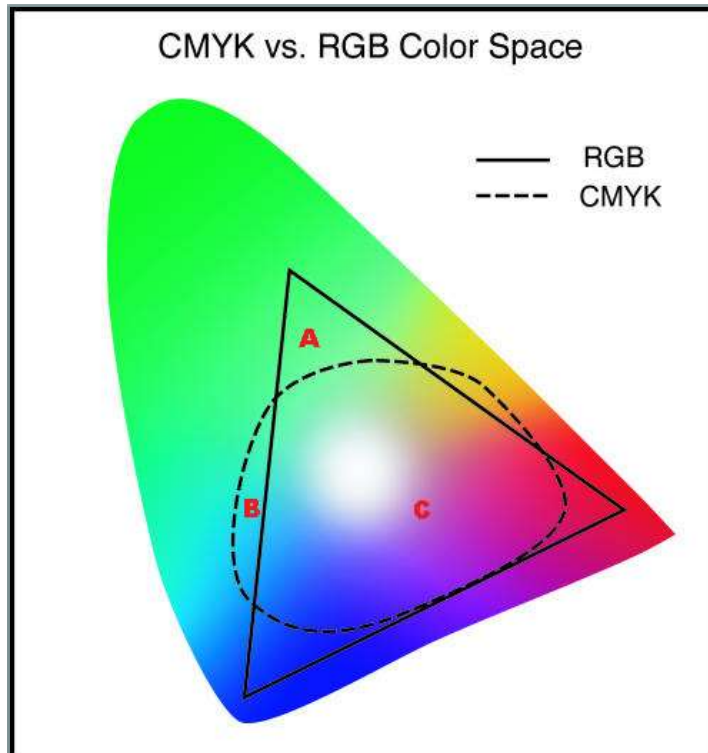
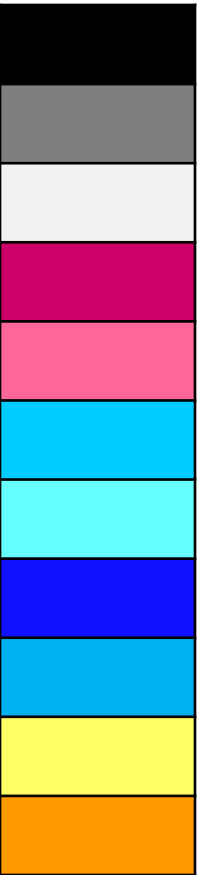
Spot colour printing with pre-mixed dyes:

- Dye shades are pre-mixed according to the recipes
- One tank for each colour shade used in the print
- Amount of dye paste must match the actual consumption
- System must be washed for a colour change



What are process colours?

In process colour printing a set of basic shades are used to generate all colour shades on the carpet using small dots of 11 basic shades.
On 76 dpi we are printing 9 dots per mm² !!!

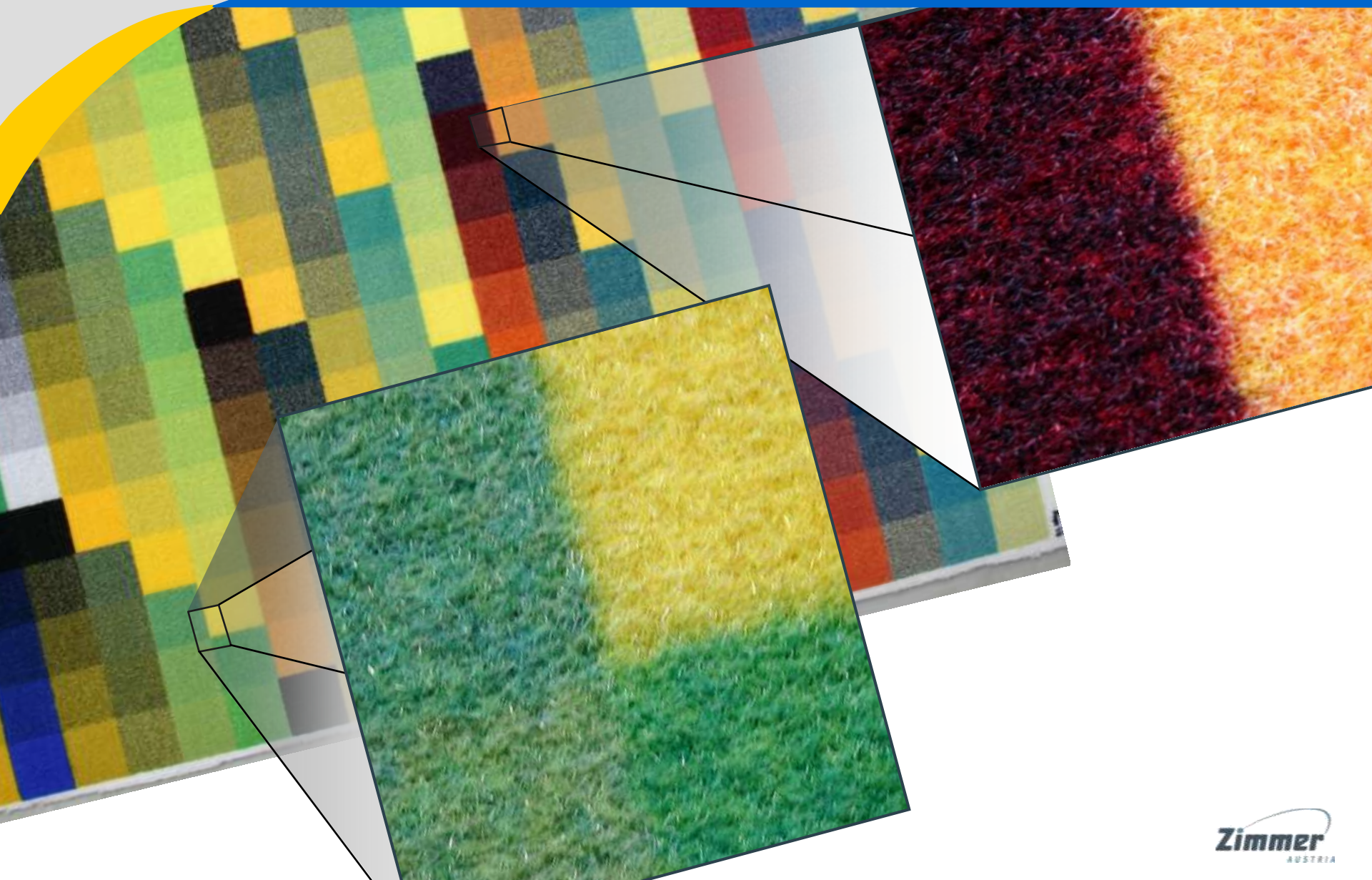


How does process colour printing work?

Process colour printing means that the actual colour is mixed on the substrate using a number of basic colours (just as in an office printer). This method has a lot of advantages against spot colour printing, where each colour must be mixed in advance.

- No change of colour - always run with same dyes (> environmental friendly)
- Almost any colour possible on the design
- No minimum order, no waiting time for sample





Criteria for dyestuff selection:

- Brilliant shades
- Wide colour gamut
- Good wash and light fastness
- Works on PA and wool
- Paste must be stable over a long period
- All ingredients (thickener, dyestuff, chemicals ...) of the recipe must be compatible
- Environmental friendly



Example of printed shades on carpet



Advantages

- Almost any colour possible
- No lab work -quick sampling on production line
- No colour kitchen – only holding tanks
- Highest efficiency
- No minimum quantity
- Only 5 basic dyestuff are used for all applications
- Environmental friendly because no colour change

Limitations

- Limited Speed (up to 5 sqm/min)
- Limited penetration
- Limited selection of dyes and chemicals
- Not much flexibility in chemicals and recipes
- RIP Software is important
- Highest precision in machinery needed
- If one colour is missing – the process does not work

Applications:

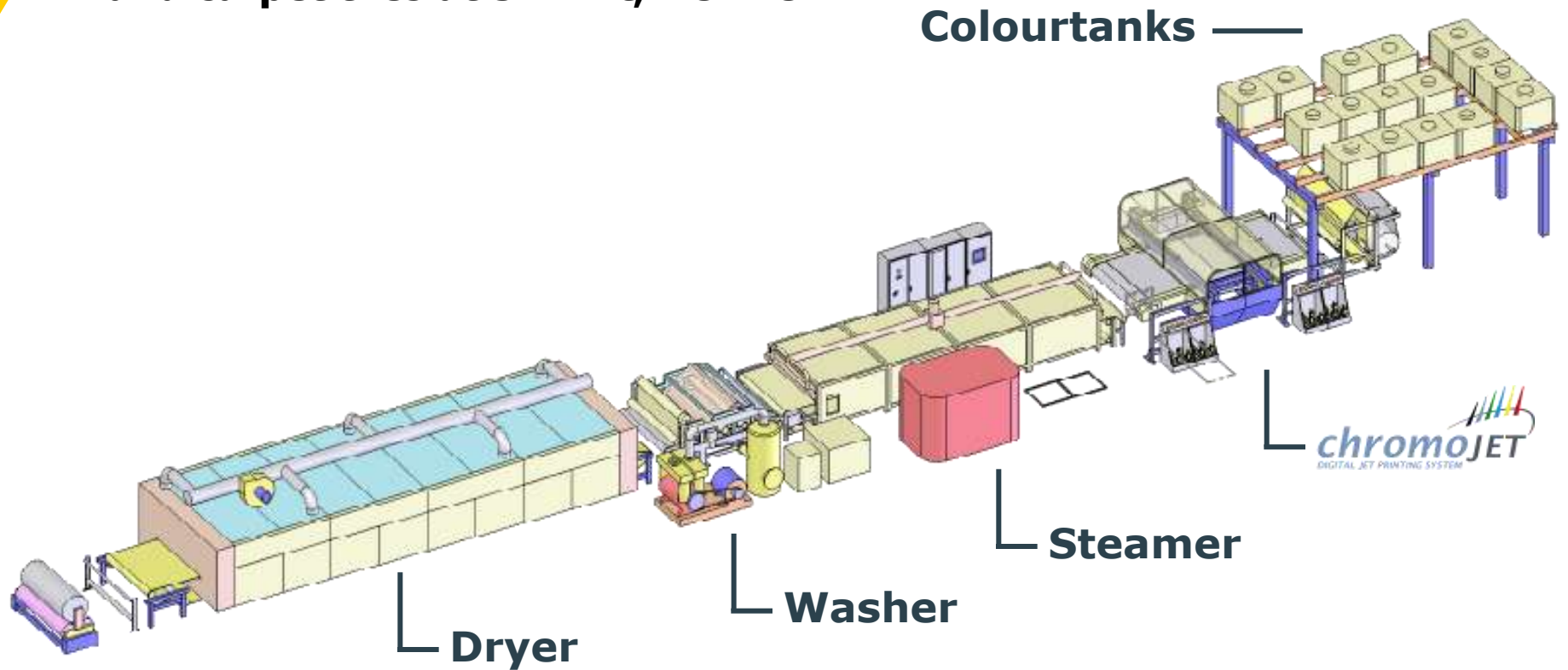
- Coco, sisal, hemp and jute mats with pigment dyes
- Acrylic and polyester blankets with cationic dyes
- Logo and welcome mats
- Exhibition and event carpets
- Carpet tiles
- Rugs and mats



Process colour printing



Layout of the 2 m wide line for carpet and carpet tiles at S-Print, Deinze







Carpet for Events



Carpet for Exhibitions





Carpet tiles



Wall covering Carpet

www.floorpromotion.com



Rugs and Mats



Spot colours versus Process colours

Spot Colour Printing	Process Colour Printing
Pre mixed dyes are used to get the shade	Basic shades of dyes are used to generate the requested shade on the carpet
Colour change by washing the system > lowers efficiency	Colours are changed only on the computer
Good levelness on solid colour	Dithering and doting can be seen on some shades
Penetration is independant from shade	Light colours have a lower penetration than dark colours
Number of printable shades depends on colour systems on the machine	Unlimited number of shades
Production speed- up to 40 m ² /min	Limited production speed of about 5 m ² /min

What does ChromoJET process colour printing mean for the carpet industry?

- **Higher flexibility - no minimum quantity**
- **Smaller print lines – less space, less investment**
- **Highest definition of 50 or 76 dpi**
- **Unlimited number of colours – the challenge for the designer**
- **Environmental friendly – no colour change**
- **New products, designs and carpet constructions**
- **This is the future for specialities and contract carpet**

*professional partner for
complete solutions of
digital carpet printing systems*



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