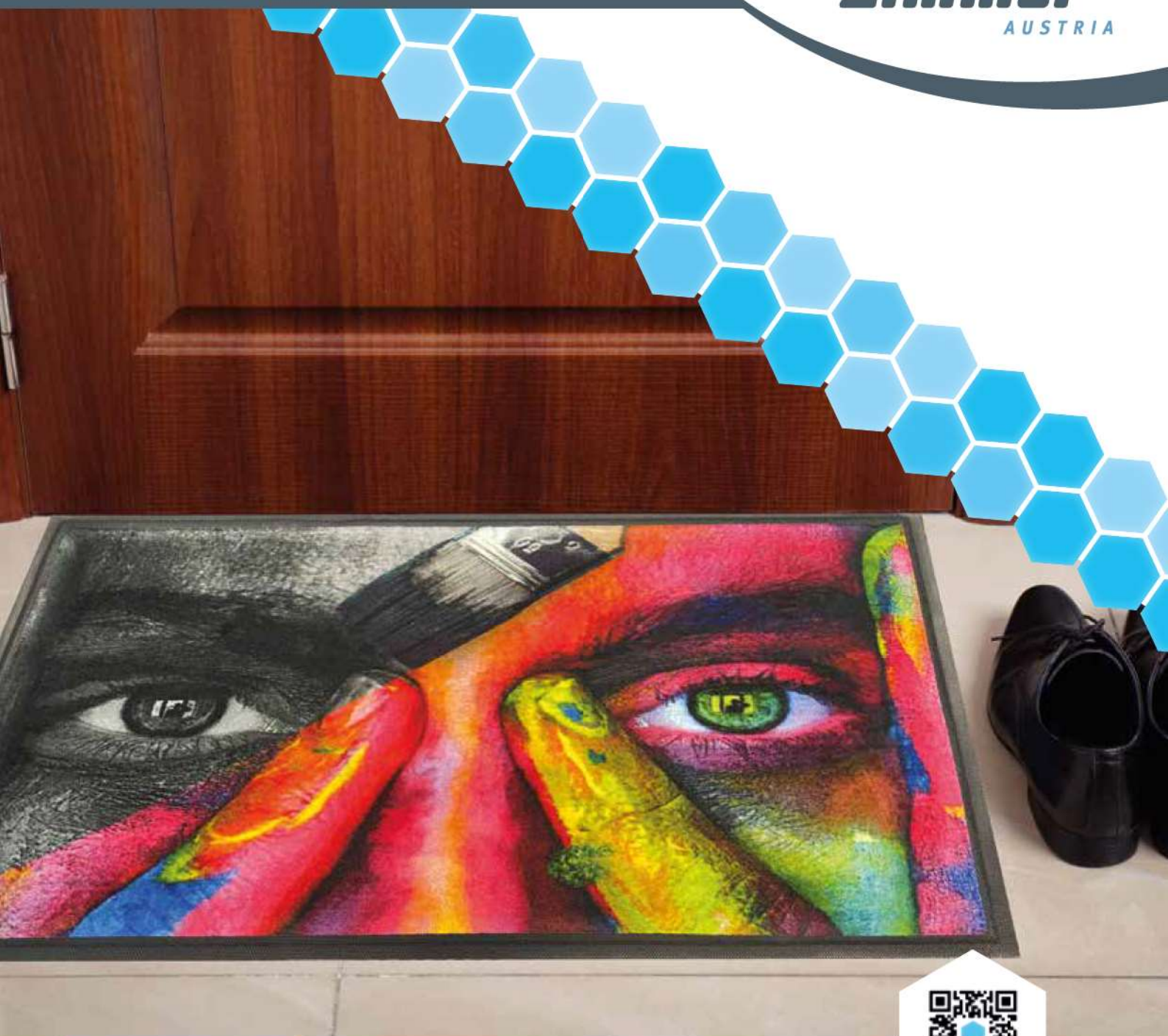


MACHINERY MANUFACTURER

Zimmer
AUSTRIA



PIONNERING INNOVATIONS
150 YEARS



COLARIS
mat printing

DIGITAL PRINTING SYSTEMS

 04/2024

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highlights

- personalized mats from white blank
- ready for webshop integration
- dual ink system for PA and CDPET m
- camera based mat detection & des
- sustainable mat production – reduc
- and energy consumption

ZIMMER AUSTRIA is the world market leader for digital carpet printing technology, and has a long history in building machinery for the mat printing industry. Today almost all mats are printed with CHROMOJET or COLARIS technology from ZIMMER AUSTRIA.

The time has come to introduce the next level of mat printing technology, combining camera recognition systems, up-to-date inkjet printing technology and direct webshop connection.

The aim is to provide a mat print line with highest flexibility and productivity using ZIMMER'S leading COLARIS inkjet technology. To speed up delivery time we think that printing on prepared to print white mats, in combination with a webshop will be the solution for the future.

- Orders will be placed via webshops and arrive directly to the printer where the mats are placed manually onto the COLARIS conveyor belt.



WEBSHOP SOLUTION

Web2Print is our answer for your market response needs.

Only a few parameters are needed to process an order, which include: order number, design name and location of the print data, mat quality, mat size, number of mats to be printed. These data can be submitted by a CSV file.

This concept is perfect to serve various webshops simultaneously. Customers can choose from a selection of designs or upload their own designs for printing. Special sizes and shapes can be cut out from runners or bigger mats. Our solution provides highest productivity within a fully automated workflow.

success



RAW MATS



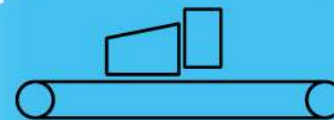
MAT DETECTION
& DESIGN
CENTERING



DESIGN
RECOGNITION
SYSTEM



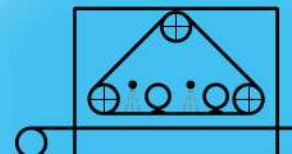
PRINTER



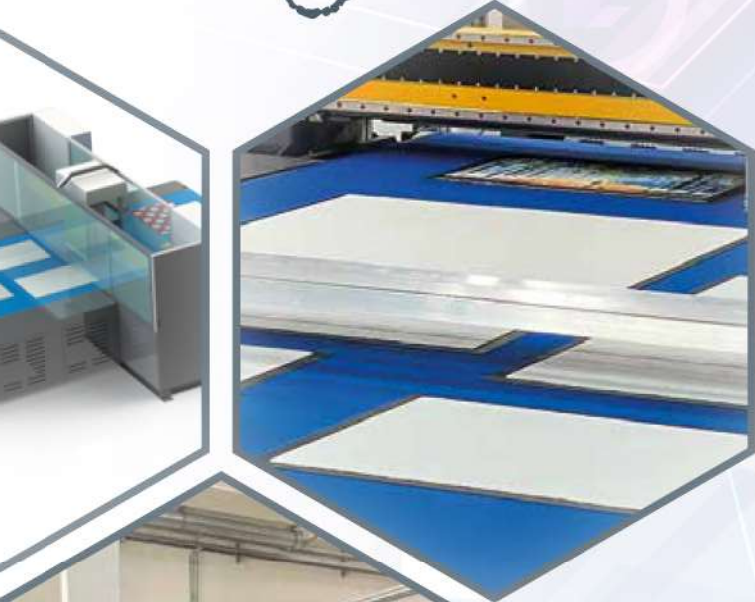
STEAMER



DRY



Section 4 design centering



THE KEY FOR MAT PRINTING BUSINESS

made mats have substan-
lerances and may vary in
, width, and the border
...the different

- Various mat sizes can be placed individually on the printer
- A camera system detects exact position and size of each mat
- Computer attributes designs on order to a respective mat size
- Matching design is ripped on the fly and provides print data exactly as per mat
- Printing is carried out by COLARIS printer with utmost accuracy
- Personalized mats with high-definition print result and vibrant colors are guaranteed

SOFTWARE FEATURES



01

DESIGN CENTERING

to make sure that the design
will be centered on the mat.

SCALING

to make sure that the design
will be scaled exactly to the
actual mat size.



02

TRIMMING

to cover the
use an 'over-
trimming' fu
that the ov
outline of t
if mats with
outlines mu
print can be
to +10 mm.



03

RIP ON THE FLY

to process all these variables in real time
we are processing all color and design
information in real time and rip the data
during printing.

The ICC profile is generated by
neoStampa® RIP from Inedit, Spain.



For technical reasons there is no way to attach a barcode, sticker or any other identification method on the mat. Up to now it was only possible to identify printed mats and rugs manually / visually by comparing the digital design with the actual image on the mat.

The design recognition system detects the design and looks through the database where orders, designs and other relevant data are stored. It takes few seconds to connect the product with the order.

After the order is complete the mats are ready for packing, and all related shipping documents can be printed out, or generated and sent by e-mail



business environment

WHAT IS NEEDED TO START A COLARIS MAT PRINTING BUSINESS?

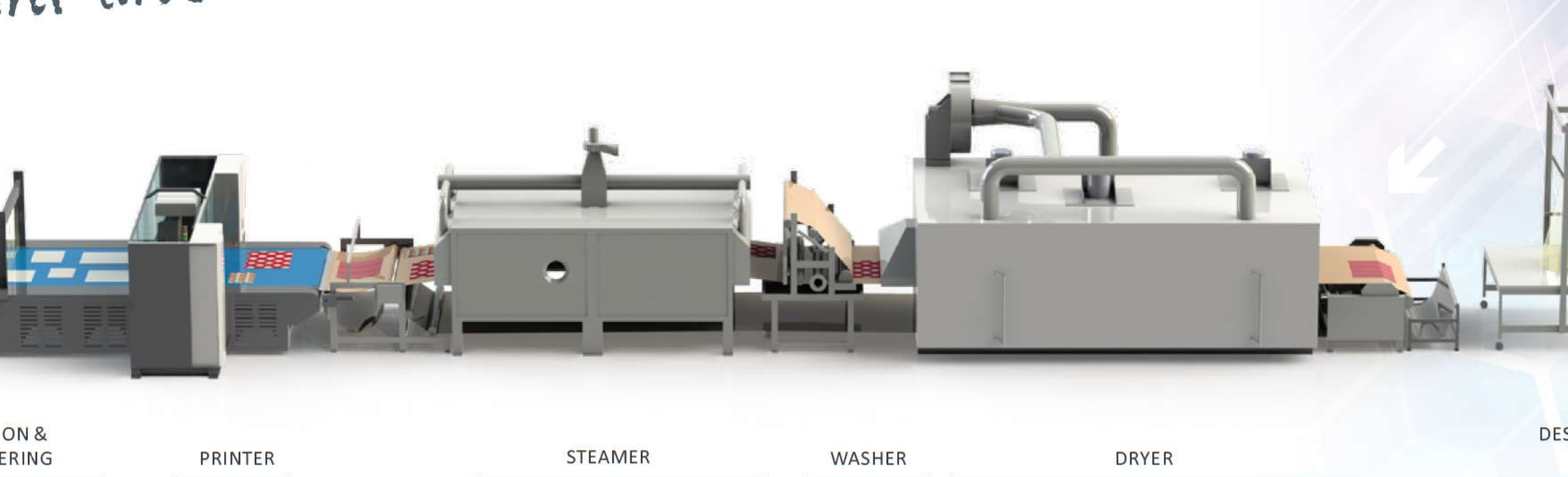
- a building to host the print line, to store white mats, include space for packaging and shipping. Between 500 and 1,000 sqm will be needed for a full professional mat printing service
- white mats in several sizes and eventually in 2 qualities – in total about 20,000 sqm to start
- steam supply – about 300 kg/hour
- electricity – about 150kVA
- compressed air – 6-8 bar
- exhaust piping from steamer and dryer

REQUIRED JOB FUNCTIONS TO RUN A COLARIS MAT PRINT LINE

- manager to run the business
- IT to support the webshop
- customer support to answer questions, add new products, process orders not placed via the webshop
- bookkeeping to handle all financial issues
- technician/technologist

INFRASTRUCTURAL REQUIREMENTS

- steam generator, electrical / air / water supply
- handling equipment like forklift
- office and IT equipment
- warehouse
- raw material (unprinted mats)
- packaging material, labels



PRINTER COL.24-2200-12X2LA

Printing system using renowned FUJIFILM Dimatix print heads. The printer can be set-up in various



NUMBER OF BASE COLORS

ZIMMER AUSTRIA recommends:
for polyamide: 5 base colors + 2 penetration booster inks (diluent)

for CDPET: 5 base colors +



PRODUCTION CAPACITY

The print capacity depends mainly on the printer configuration and the mat sizes. A typical output will range from 60 to 80 sqm per hour.



CEMENT



machine components



DETECTION



WASHER



DRYER

INK SELECTION DEPENDS
ON FIBER AND FINAL APPLICATION.

CATIONIC POLYESTER

is the new trend fiber, very easy to print using cationic dyes, deep and brilliant colors, stain proof, easy drying and excellent wash fastness.

For residential and promotion mats cationic polyester is an excellent alternative.

Depending on fiber selection and final application – ink (dye) selection is essential for a good production result. Different fastness requirements must be considered (light, wash, weather fastness). Normally high brilliancy results in reduced light fastness.

INK SELECTION DEPENDS
ON FIBER AND FINAL APPLICATION.



ACID AND METAL COMPLEX INK (DYE)

are used for polyamide, good
and wash fastness

Important requirements and functions:

A mat should not slip on the floor, not stain, not smell, have a certain weight, should be flexible at low temperature, easy to process, wash resistant, give a good tuft-lock, environmentally friendly, should have the potential to be recycled and finally it should be inexpensive.

There is no perfect back coating - each type of back coating has its strong and weak points.

PVC

PVC has a long history in the mat industry. Inexpensive, mats with and without borders, pretty inflexible, stiff when it is cold, slippery. Mainly used for residential and semi-commercial mats.

Rubber

NBR Rubber backing is used for high-end and commercial mats. Very flexible, washable, long lasting, expensive, difficult to process. Mainly used for commercial and laundry mats in combination with polyamide (Nylon) face fiber.

TPE (TPR)

TPE (thermoplastic elastomers) refers to materials that combine the properties of rubber with those of thermoplastics. TPE is soft like rubber, but can be plastically deformed when heat is applied, which enables processing by injection molding and extrusion.



Other

Carpets
more
well.

Mats

COLARIS



**MACHINERY
MANUFACTURER**

chromoJET



**DIGITAL PRINTING
SYSTEMS**



INNOVATION | QUALITY | SERVICE


Zimmer
AUSTRIA

ZIMMER MASCHINENBAU GMBH
DIGITAL PRINTING SYSTEMS

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Your competent partner for process development, engineering, manufacturing and implementation of industrial printing and coating systems.

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