

EFI Reggiani BOLT

The digital transformation is here!

Michele Gamba
Product & Marketing Manager
EFI Reggiani

The Textile Printing Market

Total Textiles
~280-300 Bn sqm

Printing Market
~35-38 Bn sqm

Digital Printing Market Size
~7-8% of Overall Printing Market
~2.5 Bn sqm

Overall endorsement of the digital printing textile industry remaining positive, with a projected growth rate for future years

Digital and rotary printing: the trade off

Production volume performance
Large quantities of printed fabric with good delivery time

Shorter time-to-market
Higher design quality

Single Pass Technology in Textile: The advantages

- Production capacity
- Fast turnaround time and shorter time to market: produce large quantities in a very short time
- Fast design changes with reduced set up time
- Digital print quality
- Reduction of spaces and inventory related to the equipment, e.g. cylinders storage
- Leaner factory management: no colour kitchen, cylinders washing, etc.

What are the main limits of existing single pass technology?

- Uptime
- Productivity and ability to match rotary printers speed
- Reliability, especially print heads reliability
- Printing quality and colour results
- ROI and cost per linear meter

BOLT Rewrite the rules of Textile Single Pass

- **Unparalleled speed**
the only digital printer to reach a 90 metres per minute operational speed
- **No time lost for maintenance**
at start up and during production
- **Massive ink laydown**
in the same time unit compared to existing technology
- **Proprietary IP**
combining digital and rotary technologies for hybrid solutions
- **Competitive ROI**
thanks to high productivity and unmatched reliability

Key technologies integrated

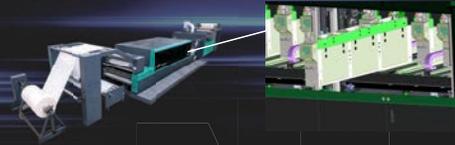
- Compact printing chamber footprint thanks to extractable printing beams
- Innovative recirculation print head concept
- High performance ink delivery system
- Missing nozzles compensation
- Uniformity correction

TAGA PRINTING

efi BEGGIAN

Extractable printing beams

Compact printing chamber footprint & extractable printing beams for easy access to print heads and ink system by the operator

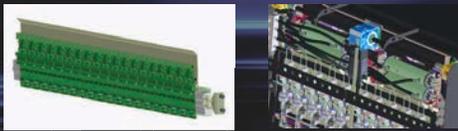


TAGA PRINTING

efi BEGGIAN

Printing beams

- Carbon fiber to avoid temperature-related dilatation
- Printing beams and electronics cooling system

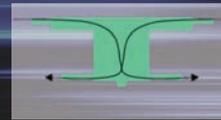


TAGA PRINTING

efi BEGGIAN

Innovative recirculation print head concept

- Developed with Fujifilm Dimatix
- Up to 600 x 4800 dpi
- 600dpi made of 2x300dpi to reduce replacement cost



TAGA PRINTING

efi BEGGIAN

Innovative recirculation print head concept

- Variable drop size from 5 to 30 picoliters
- MEMS technology more flexibility in design
- 3x ink laydown in the same time unit compared to existing technology



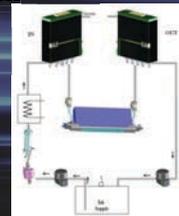
TAGA PRINTING

efi BEGGIAN

The ink delivery system

High performance ink delivery system ensuring real time printer start up and minimal maintenance needs

Able to auto-calibrate when working in different conditions



TAGA PRINTING

efi BEGGIAN

Missing Nozzles Compensation

With extensive usage and environment conditions, print heads nozzles eject some malformed and deviated drops, to the point of showing some clogged nozzles.

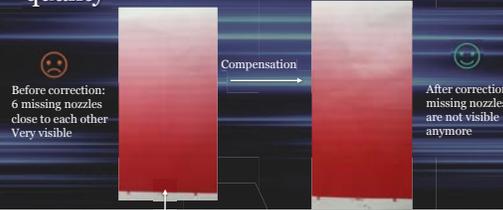
The new, unique software feature "Missing Nozzles Compensation" increases overall printing quality and uniformity.

The feature minimizes the artifacts that occur due to defective print nozzles by using bigger drops to cover the blank space.

Missing Nozzles Compensation feature improves printer's performances when combined with proper maintenance activities and fabric preparation, and cannot be considered a substitute of the same.



Missing nozzles compensation visible quality



Before correction: 6 missing nozzles close to each other. Very visible.

After correction: missing nozzles are not visible anymore.



Uniformity correction

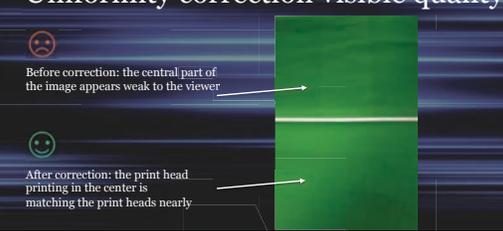
Despite the very high technology behind their manufacturing process, when print heads are installed for the first time they are not ejecting exactly the same quantity of ink. This difference can be perceived by the human eye on the print as different color shade between different areas.

The new, unique software feature "Uniformity correction" compensates for non-uniform ink laydown of print heads.

The printing results are smoother solid colors, improving quality of the printed output.



Uniformity correction visible quality



Before correction: the central part of the image appears weak to the viewer.

After correction: the print head printing in the center is matching the print heads nearly.

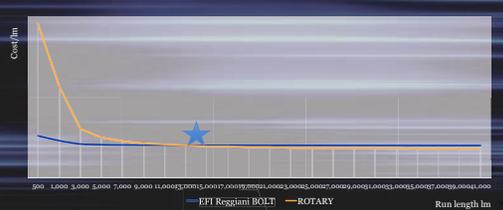


Why EFI Reggiani BOLT?

- Fastest digital printer on the market printing on fabric
- Totally based on proprietary knowhow
- Dramatic maintenance reduction: nozzles are always ready to print!
- Superior coverage and better printing uniformity
- Highest competency in colour management
- Proprietary IP combining digital and rotary technologies
- Competitive ROI thanks to the high productivity granted by 24/7 boosted uptime and reliability



The BOLT opportunity: competitive cost/meter



Cost/m

Run length (m)

— EFI Reggiani BOLT — ROTARY



The BOLT opportunity

- Fast turnaround time and shorter time to market
- Enhanced uptime and minimum set up time
- One printer for high volumes and colour consistency
- Better, richer, wider colour gamut reproduction and smooth transitions
- Richer and more detailed designs
- Reduction of spaces and inventory related to the equipment e.g. cylinders storage
- Leaner factory management: no colour kitchen, cylinders washing, etc.



Thanks for Your attention!

