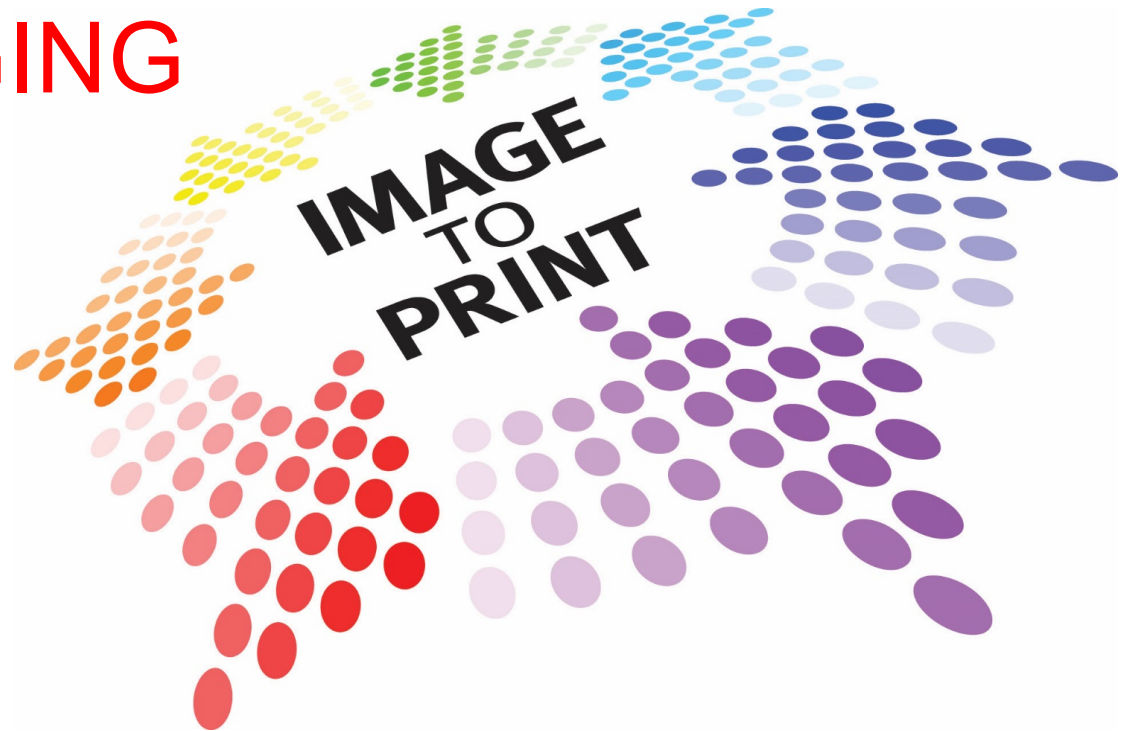


PRINTING TECHNOLOGY & INNOVATION DAYS FOR FLEXIBLE PACKAGING

20 / 21 November 2019
Kuala Lumpur, Malaysia



PRINTING TECHNOLOGY & INNOVATION
DAYS FOR FLEXIBLE PACKAGING

Toluene Free Solution for Gravure Printing

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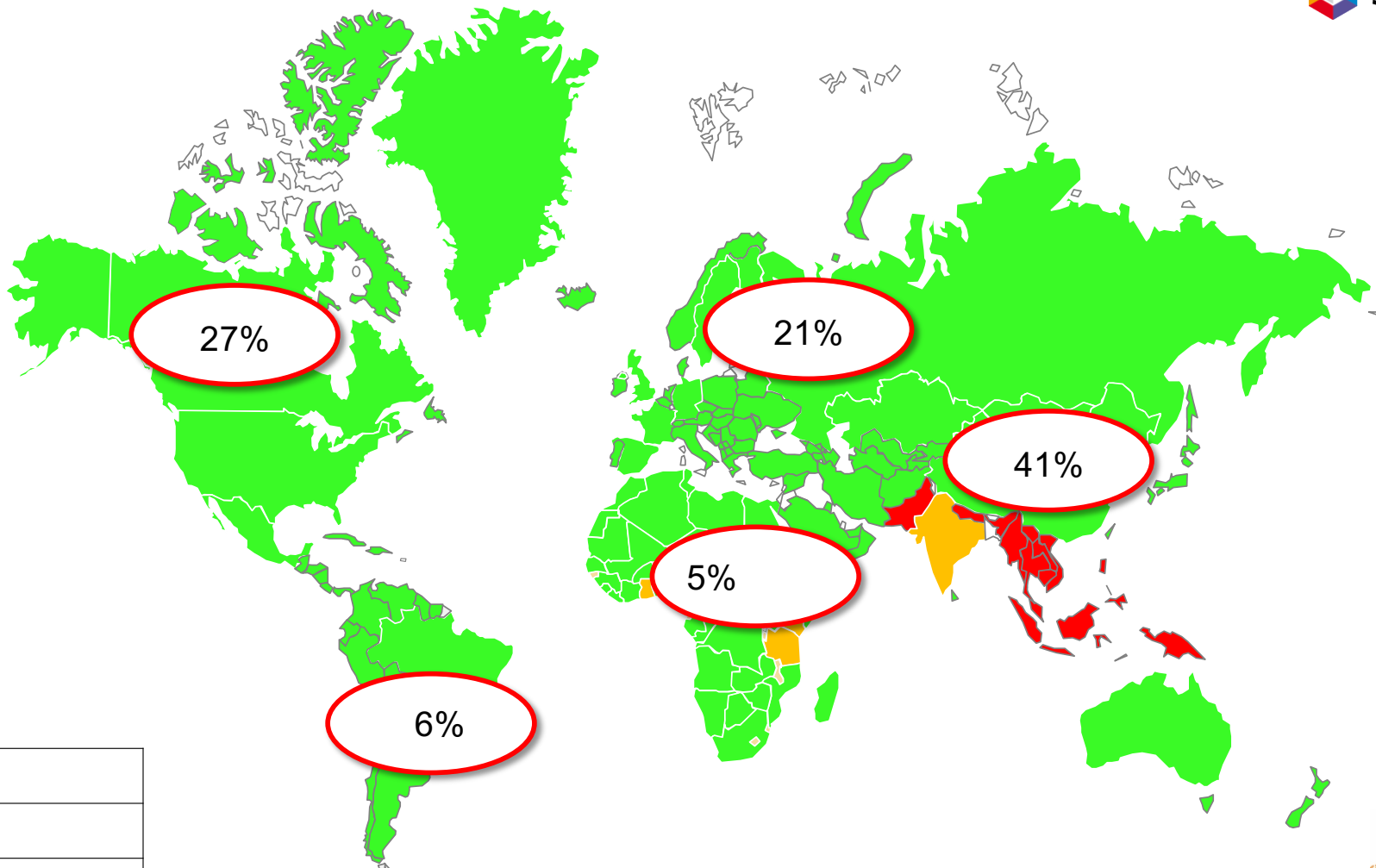
Agenda



- The future of packaging is toluene free
- Toluene free solutions



The future of packaging is toluene free

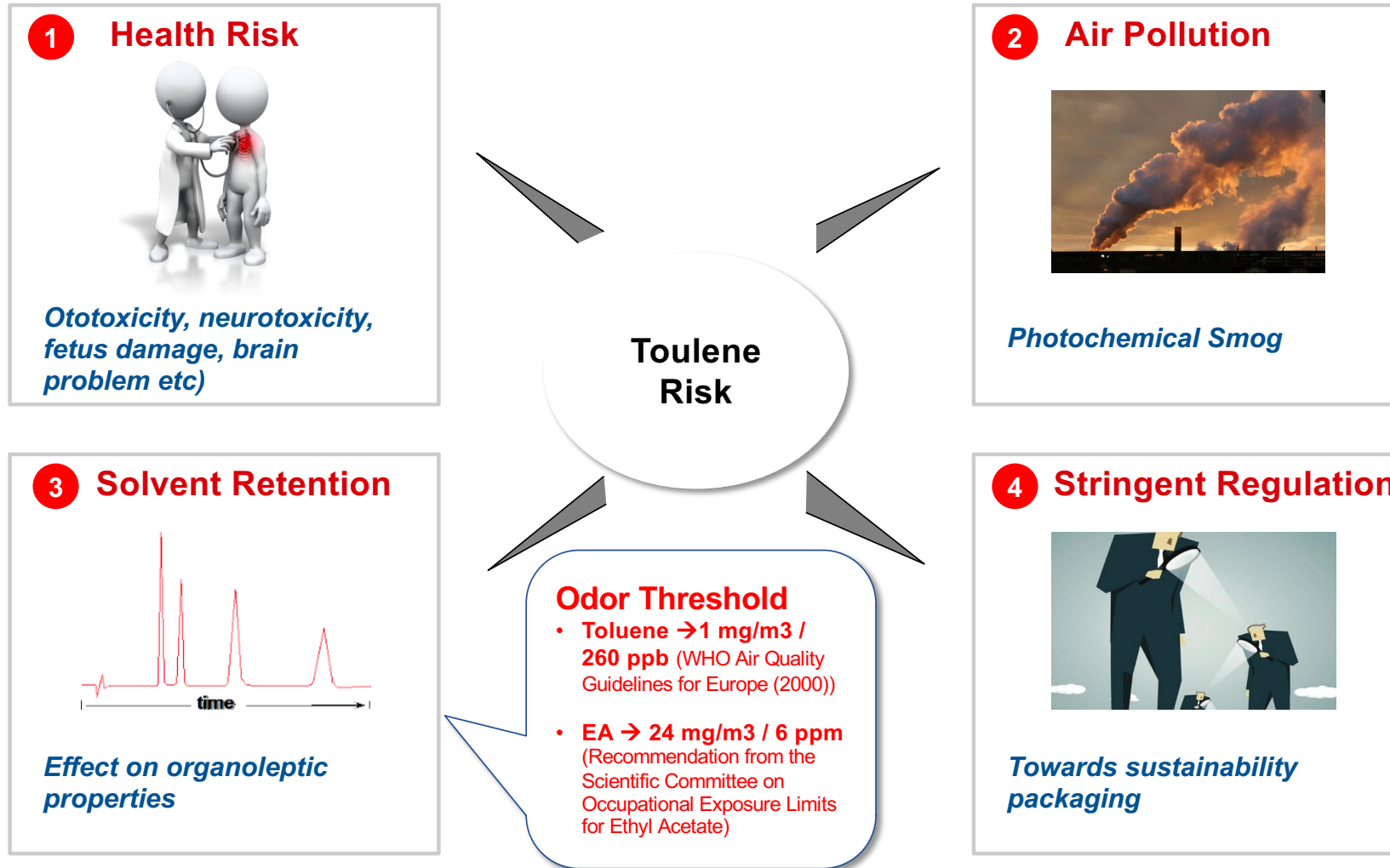


	Toluene Free
	Toluene Based
	Moving towards Toluene Free

*Flexible Packaging: State of the Industry Report (Flexible Packaging Association) October 2017, Euromonitor



Toluene has potential Occupational (Health) and Product Safety risks



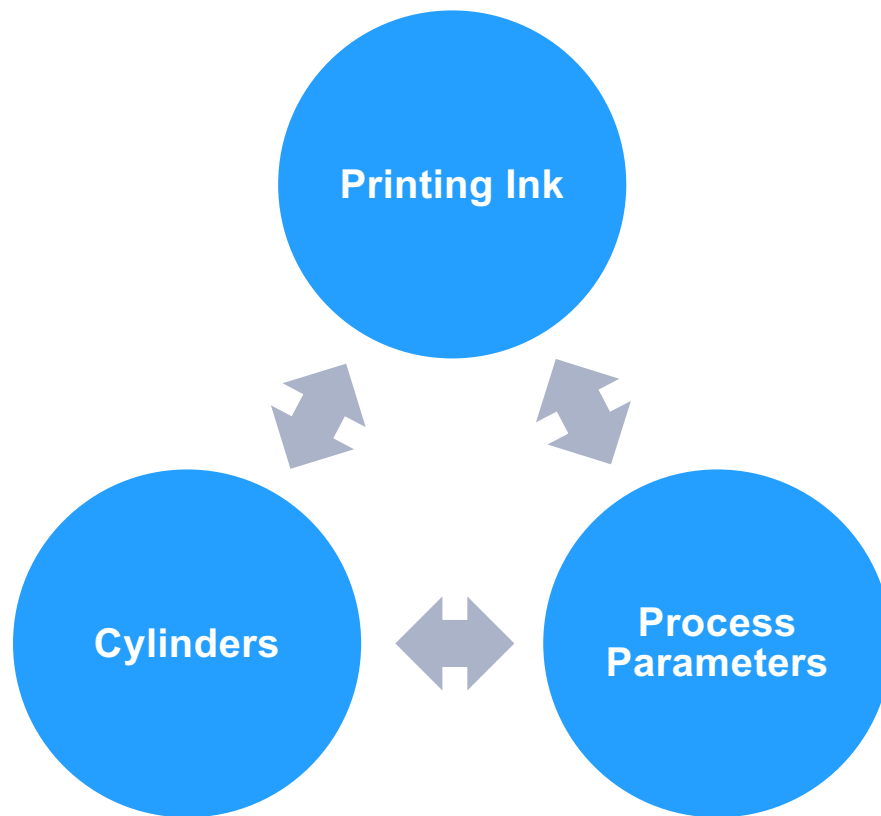
Agenda



- The future of packaging is toluene free
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Effective transition to Toluene free ink



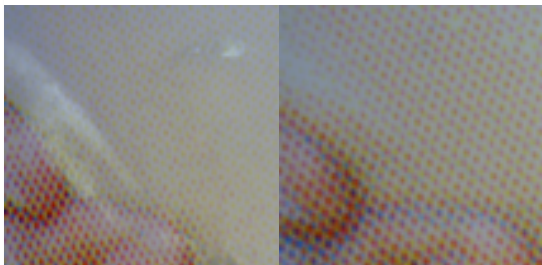
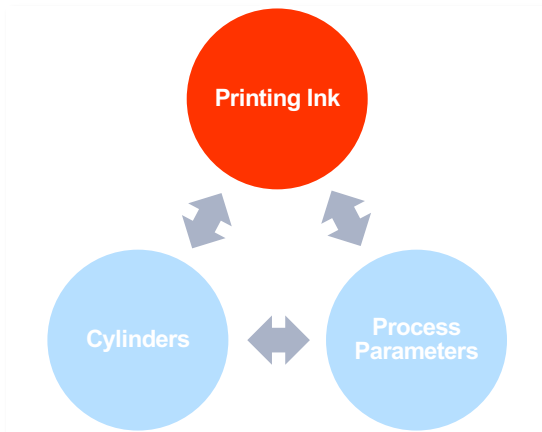
careful optimization of various
setup, materials & process
parameters

- ✓ successful transition
- ✓ high printing speed
- ✓ Total cost efficiency

**Proven experience
across Asia**



Printing Ink



Optimized ink formulations available with

- **Optimized dispersion and color development.**

- High color strength available, with stable performance and ink transfer

- **Careful selection of polymer blend:**

- improve transfer capability

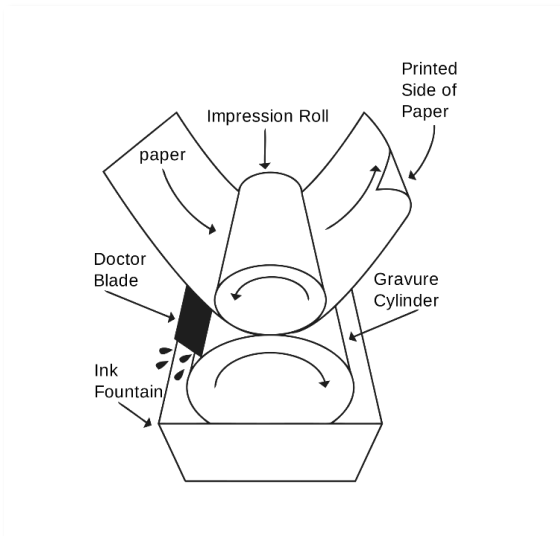
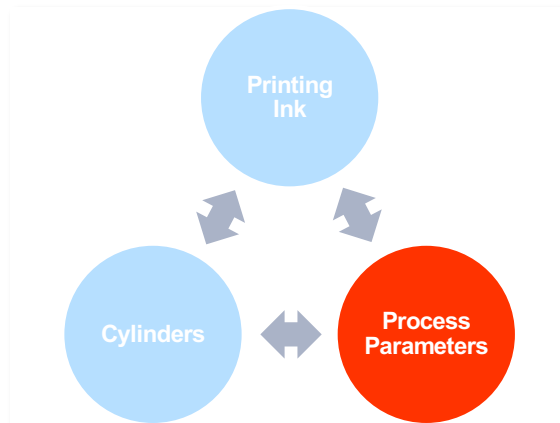
- **Right solvent balance:**

- perform continuous print efficiency

→ **Leads to high print definition and total cost efficiency.**



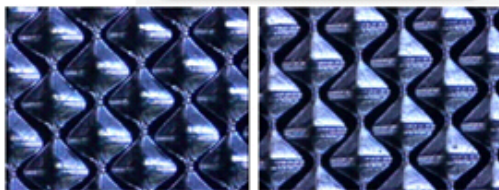
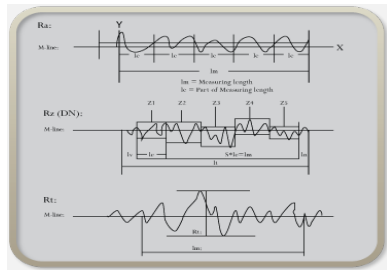
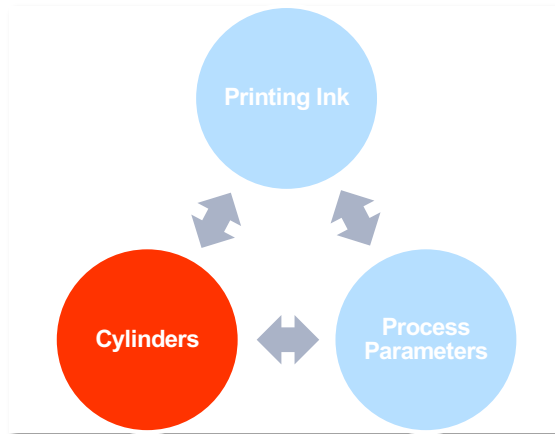
Process Parameters



- **Auto viscosity controller:**
 - maintain uniform ink viscosity and solvent balance
 - **Ink cooling system:**
 - control ink drying rate to minimize solvent evaporation & ensure consistent printing for long run
 - **Adjustments on other influencing parameters**
 - Impression roller type & hardness
 - Printing Speed (considering drying capacity performance)
 - Doctor Blade type, angle & pressure
- **Leads to high print speed and total cost efficiency**



Cylinder Parameters



120° 70R

130° 70R

- **Cylinder roughness**
 - Optimized Ra & Rz values to avoid scumming
- **Engraving parameters**
 - Change of stylus angle to reduce coating weight of ink while maintaining good printability and color strength
- **Laser Cylinders**
 - Better ink transfer, Smooth ink lay down & High print definition

„Digiform“

- Laser exposed and chem. Etched
- for Metallics & Solids

„Direct Laser“

- Half tones and metallics

→ **Leads to high print definition and total cost efficiency**

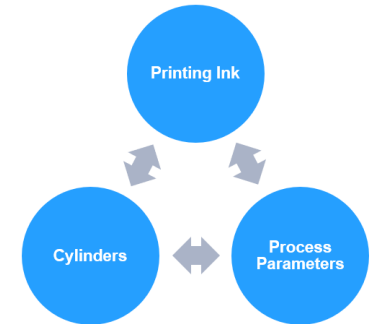


Case study – Coating weight (GSM) optimization

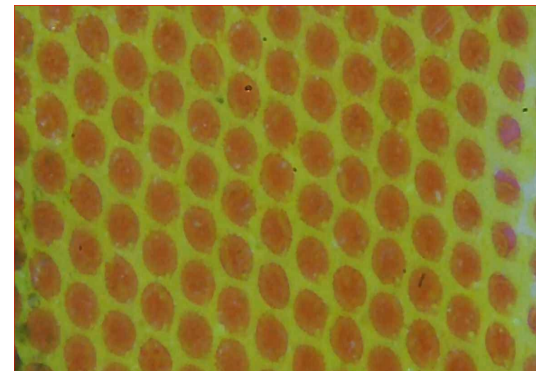
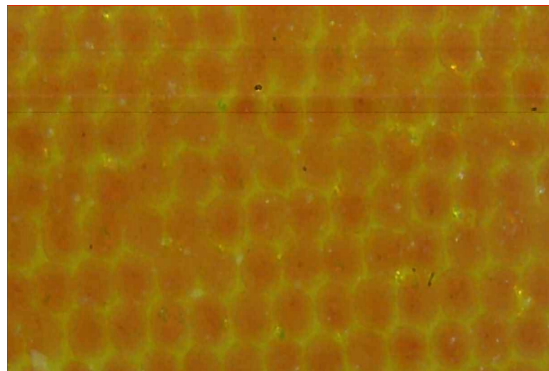


Job information:

	Existing	Optimised with SW
Ink	Toluene based	Toluene-free
Substrate	BOPP	BOPP
Cylinder*	<i>X</i> lpc/ <i>A</i> stylus angle	<i>Y</i> lpc/ <i>B</i> stylus angle
Printing Speed (m/m)	160 - 180	250 - 300
Dry coating weight (gsm)	2.53	2.13 ✓ <i>16% gsm reduction from existing</i>



Printing Performance:



Guidance and Support – Transition to Compliant Ink system



EXPERTISE

Long lasting experience in Toluene Free inks, Dedicated on-site consulting team to support print shop setup and process optimization as well as InHouse ink room management



SOLUTIONS

Broad range of performance solutions to suites your application



INNOVATION & INK TECHNOLOGY

Strong development team for gravure and flexo printing and wide range of performance inks (SB, WB, UV, EB) custom tailored to the special needs of your application



SAFE SOLUTIONS

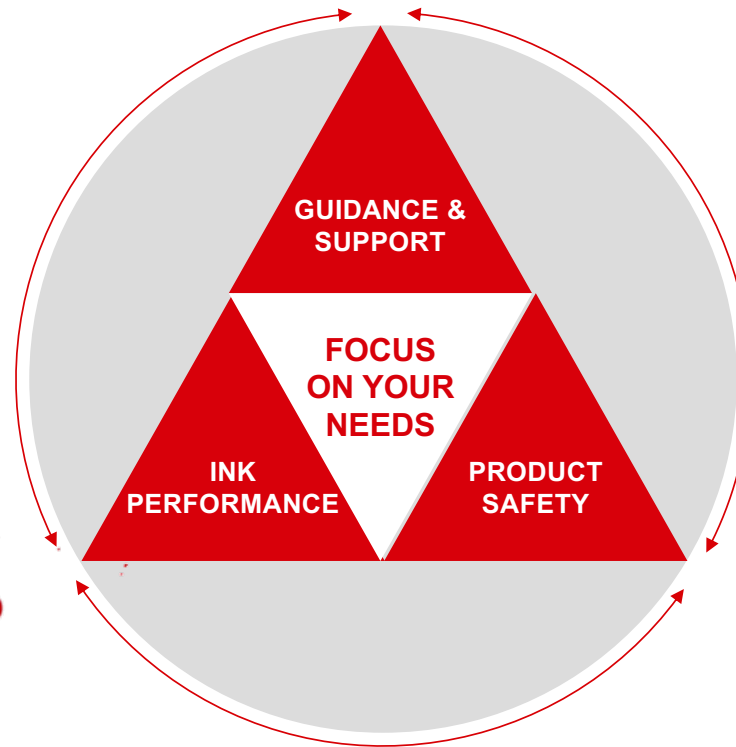
As part of the food packaging chain, we combine know-how, analytics and rigid processes to ensure highest product safety standards.



We guide you to efficient & safe performance



INK, HEART & SOUL



THANK YOU FOR YOUR ATTENTION.

janoschka

