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Issue 8 2026

Honestly

**Last call for
Asian Packaging
Excellence Awards.**

**Send your
entries NOW!**



IN THIS ISSUE



Happy retirement to Thomas Frank
(page 18)

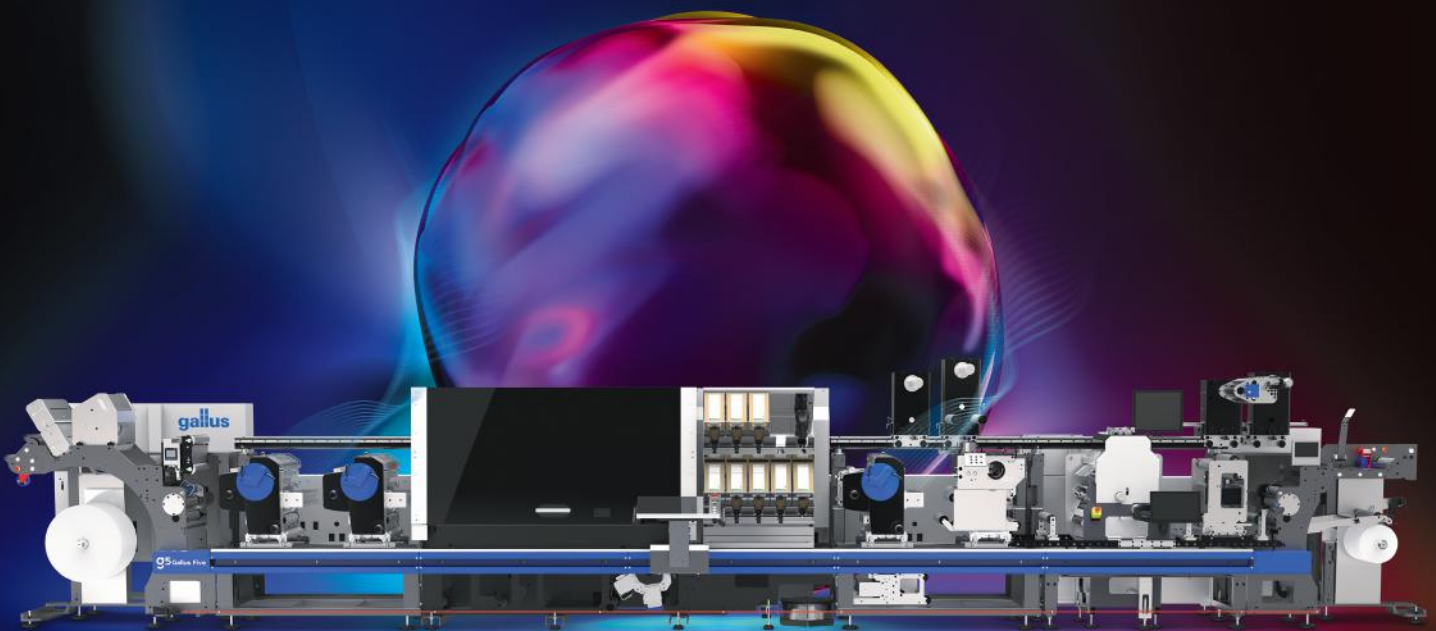


Paul Myatt looks at a really sensitive topic
(page 8)



Printing the Pace

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gallus-group.com

ENTRY FORM



Recognising the best in Packaging production from across Asia Since 2001



ABOUT THE AWARDS

The Asian Packaging Excellence Awards have been awarding quality in Packaging Excellence for the last 25 years across Asia

IT'S NOT EASY TO WIN

Note:

NOTICE

Awards Dinner held in Jakarta Indonesia on the 13th November 26. Will you join us on stage?



TRADE HOUSE OF THE YEAR
+
BEST IN SHOW
US\$4000.00
CASH

DIRECTIONS FOR USE

You must start collecting your best 2026 packaging work to submit no later than September 4th - 2026

INGREDIENTS

Open to the following industry sectors: Flexographic - Gravure - Offset - Digital in fact any area of Packaging Production are welcome to join the competition



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Flexographic Categories

Categories 1- 7

1. Narrow Web Flexo (up to 500mm)
A. Paper/Board B. Film
2. Mid Web Flexo (501mm to 914mm)
A. Paper B. Film
3. Metalized Substrate
4. Wide Web Flexo (915 width and more)
A. Paper B. Film
5. Flexo Carton & Cups
6. Post Print for Corrugates
7. Pre Print for Corrugated

Label Categories

Categories 8- 17

8. Flexographic Labels
9. Letterpress
10. Offset Labels
11. Gravure Labels
12. Combination Printing (different processes)
13. Labels Non Pressure Sensitive Materials
14. Digital Labels - 4 colours
15. Digital Labels 5 colours
16. Digital Labels 6 colours
17. Digital Labels 7 + colours

Gravure Categories

Categories 18- 22

18. Gravure Paper/Board
19. Metallised Paper (surface print)
20. Aluminium Foil
21. Gravure Film
A. Surface Print B. Reverse Print
22. Specialty Gravure (must provide written explanation)

Trade House of The Year

37. Open to all trade houses. **The jobs must be printed in Asia.** You must supply prints of your choice of the best work produced by you and the printers. If any special process used please provide on a separate paper.

Look out for the new Award Category for CTV - Sponsored by



Other Competition Categories

Categories 23- 36

23. Embellishment
24. Digital Embellishment
25. Mock-up/Sample
A. Rigid or B. Soft
26. Digital Mock-up/Sample
A Rigid or B Soft
27. Digital Packaging
A. Soft Carton or B. Rigid Material
28. Hybrid Printing
29. Offset Packaging
A. Soft Carton or B. Rigid Material
30. Company Self Promotion
31. Packaging - Point Of Sale
32. Digital Food Pouches
33. Innovation New Technology
34. Packaging Proofing
35. Digital Packaging - Wide Format
36. Offset Packaging - Corrugated

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your company?**

ENTRY FORM ASIAN PACKAGING EXCELLENCE AWARDS 2026

Deadline for Entries Submission: **4th September 2026, 5pm**

Remember to submit **2** copies of each job! Why? - Just in case one is damaged.

Maximum **3** entries per category

SECTION A

Category Number Entered (See opposite page) _____

Printing Company _____

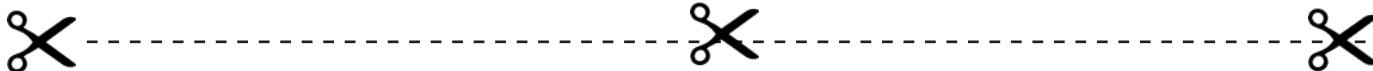
Company Address _____

Country _____ Contact Number _____

Title of Entry _____

Your Name _____ Email _____

Signature _____



SECTION B - TAPE THIS TO THE BACK OF THE ENTRY

Category Entered _____ Number of colours _____

Title of Entry _____

*Brand of Machine _____ *Ink Supplier _____

*Plate Supplier _____ *Tape Supplier _____

*Pre Press by _____ *Printed Quantity _____

*Paper/Board/Film/Label supplier _____

Send all entries to - **APEA Competition 2026**
c/o The Thai Printing Association - 311, 311/1 Rama 9 - Soi 15 - Huaikhwang District,
Bangkok 10310 Thailand Tel: +66 2 719 6685

PLEASE ALLOW TIME FOR CUSTOMS CLEARANCE WHEN SHIPPING ENTRIES

Declare "Non Commercial Value" - Printing Competition on courier ticket

All entries are **non-returnable**

email: paul@ppiainnovation.com Tel.: +61 422 869728

You **MUST** fill out these production details

You **MUST** fill out these production details



The 2026 Asian Packaging Excellence Awards Checklist!

1. Have you pick your **best work** to be judged?
2. Have you checked the work to make sure it's **1st class quality** - no hickies - no scuffing - no miss register?
3. Check it **ONE** more time!
4. Are there **2 copies** for each entry and are they packed correctly for shipment?
5. Have you completed the entry form (Section A & B) correctly and pasted Section B onto the back of the entry?
6. Have you left enough time for shipment?
Friday, 4th September 2026 - 5pm is the Deadline.
7. Check that you have written the **address** correctly
8. If you win YOU MUST attend the awards dinner to receive your award



Send all entries to
APEA Competition 2026
c/o The Thai Printing Association - 311, 311/1 Rama 9 - Soi 15
 Huaikhwang District, Bangkok 10310 Thailand
 Tel: +66 2 719 6685



PLEASE ALLOW TIME FOR CUSTOMS CLEARANCE WHEN SHIPPING ENTRIES

Declare "No Commercial Value" for Printing Competition on the courier ticket by Friday, 4th September 2026

All entries are **non-returnable**

The Awards Dinner will be held on November 13th in Jakarta Indonesia

www.ppiainnovation.com

email: paul@ppiainnovation.com Tel.: +61 422 869728

The annual Asian Packaging Excellence Awards was founded **25 Years Ago** to recognise outstanding achievement in the packaging industries across Asia. With more than half the world's population represented in this fast growing area, communication in the form of printed matter links Asia's diverse cultures. It is imperative that such print achievements do not go unrecognised, especially among the population base that Asia enjoys.

The Awards are judged on a wholly quality-oriented set of criteria to ensure that fair play is enacted at all times.

The **Independent Judging Panel** comprises highly qualified personnel from within Asia and around the world. The independent judging panel has no knowledge of the actual entrants details. ALL ENTRIES ARE NUMBER-CODED. Entries must be commercially produced work.

The Asian Packaging Excellence Awards is the **only regional print quality competition of its kind in Asia**. Supported by leading industry-supply companies, any progressive quality packaging print house should enter and prove that they are the best - by winning the Gold, Silver or Bronze award. Proving pride in quality awareness is what customers love to see. Win and you can prove it!

26th YEAR



ASIAN PACKAGING EXCELLENCE AWARDS:



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INDUSTRY ANALYSIS

Chinese UV Inkjet OEMs

The APAC Story the Industry Rarely Tells

This is not simply a low-cost equipment story. It is a shift in who controls price, product development, channel economics and investment risk – and Japan may be its most important test.

By Paul Myatt

QUESTIONS

- Pricing ?
- Technology ?
- Suppliers ?
- Market Share ?
- Clients ?
- Profitability ?

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A representative integrated UV inkjet label production platform.
Image courtesy Flora.

About this article



Paul Myatt

This article examines how Chinese UV inkjet OEMs are reshaping the label and packaging printing market across Asia Pacific.

It looks beyond price to the deeper forces at work – product development speed, system configuration, channel economics, service capability and customer confidence – and why Japan may be the most important and most demanding test of all.

The analysis draws on recent industry reporting, trade show observations, supplier information and on-the-ground market experience across APAC.

The aim is to give converters, brand owners, investors and suppliers a clear-eyed view of what is changing, why it matters and how to respond.

Inside this article

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Chinese platforms increasingly combine local integration with Japanese printheads and international workflow components. Representative press shown; image courtesy Flora.

The market pressure is accelerating



For years, Chinese UV inkjet press manufacturers were treated as an interesting sideshow: capable of producing an attractive trade-show demonstration, but not yet a serious strategic threat to established European, Japanese or American suppliers. That view is now out of date.

Across APAC, the conversation is changing. The question is no longer whether a Chinese-built digital label press can print a saleable label. Many can. The real questions are whether the supplier and its regional partner can support the application, maintain consistent output, respond quickly when the machine stops, and build the customer confidence needed for a five-to-ten-year investment.

That distinction matters, because it explains the story the industry rarely tells. China is not only exporting lower-priced equipment. Its OEMs are changing the economics of digital adoption, shortening product-development cycles, altering distributor behaviour and forcing established manufacturers to justify every layer of cost. The impact is already visible across Southeast Asia, India, Korea, Australia and emerging APAC markets. Japan will be slower, more demanding and less forgiving - but it will not remain insulated.

The old description - 'cheap Chinese machine' - misses the point

Price is clearly part of the disruption. A lower capital cost can bring UV inkjet within reach of converters that could never justify a premium digital press. It can also allow a larger converter to test a new application without putting an excessive amount of capital at risk. But price alone does not explain why the competitive pressure is intensifying.

Chinese OEMs have developed inside one of the world's largest and most demanding manufacturing ecosystems. They have access to a broad engineering supply chain, large domestic demand, rapid component sourcing and customers willing to test new configurations. At Labelexpo Asia 2025, 450 exhibitors and more than 30,500 visitors from 114 countries demonstrated the scale of the platform. Industry reporting from the event concluded that Chinese inkjet label presses had become more mature, their value proposition more compelling, their development speed very fast and their configuration choices unusually broad. [1][2]



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Giving Shape to Ideas

How the impact is spreading across APAC



That is uncomfortable for established OEMs because the hardware brand no longer owns the entire technical story. The competitive advantage moves towards application knowledge, proprietary ink and screening, verified uptime, service response, workflow integration, financing and the ability to reproduce results across substrates and sites.

Chinese platforms increasingly combine local integration with Japanese printheads and international workflow components. Representative press shown; image courtesy Flora.

How the impact is spreading across APAC

APAC is not one market. Australia, India, Vietnam, Thailand, Indonesia, Korea and Japan have very different customer expectations, financing structures, labour costs and channel maturity. Even so, the arrival of more capable Chinese UV inkjet suppliers is producing several common effects.

The commercial test is not the demonstration; it is repeatable, saleable output across real label applications. Image courtesy Flora.

1. The entry price for credible digital production is being reset

Converters now have more alternatives below the traditional premium investment level. This does not automatically mean the lowest-priced press offers the lowest total cost, but it changes the first boardroom discussion. A supplier asking for a large premium must show where the extra value is created - in uptime, yield, quality, automation, compliance, resale value or service - rather than relying on brand history.

2. Product development is moving faster than conventional sales cycles

Chinese manufacturers can add a printhead option, colour channel or finishing module at a pace that is difficult for larger global organisations with longer validation and governance processes. Speed can create immature combinations, but it can also solve a market requirement before an established supplier has approved the business case. In fast-developing APAC markets, being available now can matter more than being theoretically perfect later.

Japan, established OEMs and the bigger picture

When a capable new press enters the market at a lower capital cost, it does not only compete with new premium machines. It also competes with used digital equipment. That places pressure on residual values and can weaken an established supplier's argument that a higher initial price will be protected by a stronger resale market. This effect is rarely discussed, but it will influence future investment models.

5. The risk is moving from purchase price to execution

The attraction is obvious: lower capital exposure, broad configuration and quick commercial response. The danger is equally clear: a converter may save on the purchase and then lose the benefit through poor ink-substrate compatibility, unstable colour, limited local parts, slow escalation or inadequate operator training. The correct comparison is therefore not machine price versus machine price. It is the cost and risk of producing an accepted label, every day, over the life of the investment.

Why Japan is different - but not protected

Japan is often described as too conservative, too quality-focused or too loyal to domestic suppliers for Chinese UV inkjet OEMs to gain meaningful traction. That is a comfortable assumption, but it confuses a high entry barrier with a permanent barrier.

Japanese converters will not accept vague performance claims, inconsistent demonstrations or a service model built around late-night messages to a factory engineer. Fine text, colour accuracy, repeatability, media compatibility, documentation, safety, language support and response discipline all matter. A machine that looks impressive for twenty minutes at an exhibition must still prove that it can produce the same result on a humid Monday morning, with a local operator and a live customer deadline.

However, Japan also faces the same pressures driving digital adoption elsewhere: shorter runs, more SKUs, faster response, limited skilled labour and the need to reduce setup waste. METI's 2025 SME white paper highlighted persistent labour shortages and the need for investment that improves productivity. [4] The label sector itself has already acknowledged the opportunity. In 2024, Kanematsu and SCREEN GP Japan began distributing an affordable South Korean digital label press, explicitly stating that the aim was to accelerate digitalisation in a Japanese label industry that still predominantly relied on analogue printing. [5]

That announcement matters beyond the individual product. It shows that respected Japanese organisations are willing to combine an overseas-built press with Japanese sales, maintenance and support credibility. This is precisely the bridge Chinese OEMs will need. Japan will not buy a machine simply because it is inexpensive. It may buy a well-validated production solution when a trusted local organisation owns the result.

Japan will not buy cheap equipment. It will buy confidence - and the winning model may combine Chinese hardware speed with Japanese application and service discipline.

LIGHTS-OUT PRINTING

AUTOMATION, PRODUCTIVITY AND
THE SMART PRINT FACTORY



This is a term used to describe a highly automated print production environment where presses and finishing equipment continue operating with little or no human intervention—often overnight or during weekends. The goal is to maximise productivity, reduce labour costs, and increase equipment utilisation while maintaining consistent quality.

In traditional printing, operators are required to continually monitor press performance, adjust colour, replenish materials, and move jobs between production stages. In a lights-out environment, many of these tasks are automated through intelligent software, robotics, inline quality control, and connected workflows.

A typical lights-out print facility relies on several key technologies:

Automated job scheduling and workflow management. AI-driven prepress systems that prepare files without manual intervention. Automated plate loading or digital press setup. Closed-loop colour management with inline spectrophotometers. Robotic handling of paper, pallets, or finished products. Automated finishing systems that cut, fold, bind, or package jobs. Real-time production monitoring and predictive maintenance to minimise downtime.

Rather than eliminating people completely, lights-out production changes the role of skilled operators. Staff become production managers, workflow specialists, and maintenance experts who oversee multiple machines, analyse performance data, and intervene only when exceptions occur.

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AUTONOMOUS PRODUCTION

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The benefits include increased production hours without additional labour, faster turnaround times, more consistent print quality, reduced waste and makeready times, lower operating costs and greater competitiveness in high-volume and short-run production.

However, implementing lights-out manufacturing also presents challenges. Companies must invest in automation, integrate equipment from different manufactures, develop reliable workflows, and ensure robust preventative maintenance. The success of a lights-out operation depends on having stable processes before automation is introduced.

Today, lights-out production is becoming increasingly achievable through advances in artificial intelligence, machine learning, robotics, and Industry 4.0 technologies. Modern offset, digital, flexographic, and packaging plants are progressively moving towards autonomous production where jobs can enter the workflow digitally and emerge as finished products with minimal human touch.

In simple terms, lights-out printing means creating a smart factory where production can continue even after everyone has gone home. The “lights out” expression comes from the idea that the factory could literally operate in the dark. because no operators are required on the production floor.



SVEN OLSEN

Managing Director, Muller Martini Asia Pacific



LIGHTS-OUT FINISHING SOUNDS GOOD...

Until the paper roll ends and reality starts. Then you'd better be able to work in the dark...

Across Asia Pacific, I keep seeing the same thing in digital book finishing. Automation improves every year. Workflows become smarter. Machines exchange production data automatically. Job tickets, barcodes and setup information move through the line without manual handling.

On paper, the process looks almost perfect.

THEN PRODUCTION STARTS.

Paper behaves differently from roll to roll. Humidity changes things. Print quality moves slightly during longer runs. The last meters of a paper roll can suddenly become more wavy than the first.

Small variations create larger downstream effects in folding, binding and trimming.

That is the part many automation discussions forget.

FACTORIES ARE PHYSICAL ENVIRONMENTS, NOT SOFTWARE DEMOS.

I still believe strongly in touchless workflows and smart automation. They reduce waste, improve consistency and make short-run production possible.

BUT SMART PRINT STILL NEEDS SMART OPERATORS.

At least for now, the lights should stay on a little longer.

A Walk Down Memory

Our final Interview with

2026 has been a year of significant change for the printing industry in many different ways. But when an industry veteran retires, it is also a time to reflect on a remarkable career and a lifetime of service to print. After many years with Heidelberg, including a substantial part of his career spent in the Asia Pacific region, Thomas Frank has witnessed enormous changes across the industry. We caught up with Thomas to look back on his journey, the people and experiences that shaped his career, and what retirement means to him as he closes one chapter and begins another.



Below is the full interview with Paul Callaghan

Q: When did you join the industry, and why did you join the industry?

I joined the industry in 1987. Apart from some chit-chat with a junior press operator on my water polo team, I had never heard much about offset or any other type of printing.

TF: I joined Heidelberg because, at the time, it was at the top of a McKinsey list of successful German mechanical engineering companies that my university professor had shown me. I sent my CV to Heidelberg and joined the company a little later.

Q: What made you decide to come to Asia, and when did you first come here?

TF: My first backpacking trip to Asia was with my girlfriend in the mid-1980s. It was a fantastic trip, apart from being stung by a stingray on my right foot off Malaysia's east coast, near Kuantan. Although painful, that sting must have infected me with the "Asia virus", as I returned many times.

My first business trip to Asia was in 1996 for a market study I conducted with Bent Mortensen from the East Asiatic Company. He later became my boss, although I couldn't have known that at the time.

After many more trips, I was transferred with my entire family to Singapore in 2009. My job was to develop Heidelberg's equipment business, and in 2017 my role was expanded when I became Head of Heidelberg's Asia Pacific Region.

Q: After all these years here, what has been the highlight of your career, and what has been the low point? Perhaps COVID?

TF: The highlight of my career in Asia was being appointed Head of Heidelberg's Sales and Service Region Asia Pacific — a region spanning from Pakistan in the west all the way to Japan and New Zealand in the east, covering many different countries and cultures. This included leading a team of more than 750 Heidelberg colleagues in 2018.

On top of that, each September there was an annual highlight: taking around 35 to 40 customers from Southeast Asia to Germany, culminating in a final Oktoberfest evening in Munich. Like me, they all have fond memories of those trips.

The low point of my career was being trapped in Singapore during COVID. Keeping the Asia Pacific organisation afloat without having the chance to see customers and colleagues in person was a true challenge. Many colleagues had difficulties getting vaccinated, and our service engineers in India and elsewhere had a particularly hard time. Reading the weekly COVID-related reports from countries across the region was shocking, particularly during the first phase of the pandemic. Luckily, our IT team always maintained flawless communication, and we were able to keep everyone safe.

Our partners at MK Masterwork also helped us tremendously by making masks available, produced on machines that had been developed

y Lane: th Thomas Frank

almost overnight and derived from folder-gluer technology.

Q: *Looking at our industry, with all your years of experience, what do you think have been the biggest changes you have seen?*

TF: The biggest change has happened on the leadership side. During my first travels to Asia, the typical print shop owner was often a former operator, now running his own press in his undershirt. But there was already a good likelihood that a Mercedes was parked in front of the shop. Conversations over dinner were about press features and ink/water balance.

Those shops are largely gone. They were either swallowed up by consolidators or — my preferred scenario — their sons and daughters took over after completing their studies in Australia, the UK or the US.

Most second- and third-generation owners understand their customers' needs, know how to find a profitable niche and, in a broader sense, know how to reinvent and grow their parents' businesses. As a result, many highly flexible mid-sized companies have emerged that can easily stand their ground against the multinationals.

But representing one of the world's biggest press manufacturers, I must of course also mention another dramatic change. The typical Asian press of the early 2000s was a straight four-colour machine. A quarter of a century later, new press installations range from six-colour-plus-coater configurations all the way up to presses with 16 or 17 printing and coating units, fully integrated with Prinect workflow.



CNY dinner 2011



2018 VIP Tour Germany

Q: *Where do you think the printing industry will be in 10 years?*

TF: In the past, a decade in the printing industry rarely brought revolutions. Things developed rather gradually, and some trends were even reversed. We must not forget that when looking into the future.

The industry in Asia is not one monolithic block that changes uniformly overnight, as the range of entrepreneurs and applications is huge. But there will be general trends

that nobody can shy away from, such as the use of AI.

Like many other industries, print will be reshaped by AI. The person ordering a print job in the future may not necessarily be a human being; it could be an AI agent that will never show up for a press check and won't care whether the press is digital or offset. Associated with this, AI will increasingly be used at the printer's front end for quoting and scheduling. High-speed inkjet printing will continue to grow, while in the finishing area robotics



will replace much of the heavy and exhausting manual work.

Q: Where do you think the packaging industry will be in 10 years?

TF: AI and automation will dominate this segment too, but perhaps even more characteristic will be smart packaging and sustainability.

The end user's expectation will be that extended product and marketing information is made available through printed codes, while traceability throughout the supply chain will become a necessity.

Additionally, people are becoming sick and tired of seeing shorelines littered with plastic and roadside dumps filled with bottles, bags and containers. Systematic recycling and the substitution of plastic with fibre-based packaging will be part of the inevitable and much-needed move towards sustainability.

While "green printing" in the past was often more of a marketing message than a genuine desire to make the world a better place, sustainability in the future will become a necessity, driven by both younger consumers and governments.

Q: Will you return to Asia often to get your "fix" of the food, weather, etc.?

TF: Yes, of course, but you can add friends to food and weather. That will include good old colleagues, customers and business partners.

My future travels, however, will involve fewer stays in airline lounges and meeting rooms. Instead, I would like to see the sights and places I have previously only flown over or passed by in a car, without having had the time to stop.

Q: As you get ready to hang up the "Gone Fishing" sign in retirement, what have you planned for the next chapter of your life?

TF: I have my strategic plan in place, but this time it is not about markets and products; it is about "just me, my wife and the kids". I won't share the plan here, as I don't need any third-party strategy reviews any longer!

But jokes aside, here's what's ahead in more concrete terms. The key will be finding the right balance between family activities, travel, meeting good old friends from my school and university days — with whom I have kept in touch throughout all my years in Asia — and the part-time work I still want to do.



Working is in my DNA, and I don't mean gardening or refurbishing the 1953 Zündapp moped that still sits in my garage. What I need is interaction with co-workers.

Q: As a final message to everyone who has impacted your life here, what would you like to say?

TF: To draw a conclusion from my time in Asia could fill many pages. But in a nutshell, one of the greatest things to observe was how my family broadened its perspective and understanding of different cultures.

My children, who left home long ago, continue to benefit from their international circles of friends, and so do my wife and I.

I am grateful for the many friendships I have been able to build with customers, colleagues and business partners across Asia and Oceania. Many of my colleagues have been very patient with me and my originally very German mindset.

They won me over with their Asian way of life, characterised by outstanding dedication and pragmatism. The can-do attitude and tireless willingness to go the extra mile are qualities you find everywhere across Asia.

I will dearly miss them.

Final message from me

Thomas, I remember when you first arrived in Asia all those years ago. We have travelled to many trade shows and countries over the years, and our paths have crossed many times.

From my perspective, I would like to thank you for your support through both the good times and the difficult times our industry has witnessed. I know you have now passed on the responsibility to a fine young man to drive the business forward, but I am very happy that we had the opportunity to work in the same industry and be part of the many changes that have taken place.

I wish you and your family good health and every happiness as you enter the next chapter of your lives.

I also hope that when we catch up in the future, we can still enjoy some fine wines and plenty of good laughs, just as we have done over so many years!

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UPM Specialty Materials

Implementing CTV (Colour Tone Value) in Offset Printing

By Advanced Printing Technology Centre (APTEC), HK China

Press calibration is an important means for controlling print quality. ISO/TS 10128 which was published by ISO/TC130, describes various press calibration methods. Another important indicator document for print quality control, ISO 12647-2 uses LAB colour values as the main control parameter. However, in actual production, printing operators usually use density as the colour control, applying the Murray-Davies formula to calculate Tone Value Increase (TVI).

Ultimately, customers often use colour appearance as their acceptance standard, leading to some discrepancies. It is because the same density can result in different colours, and different colours have different TVI values. Additionally, different paper types apply different TVI curves which will be difficult to manage. While density is an effective indicator for monitoring the status of printing machine, it is not the best method for monitoring colour.

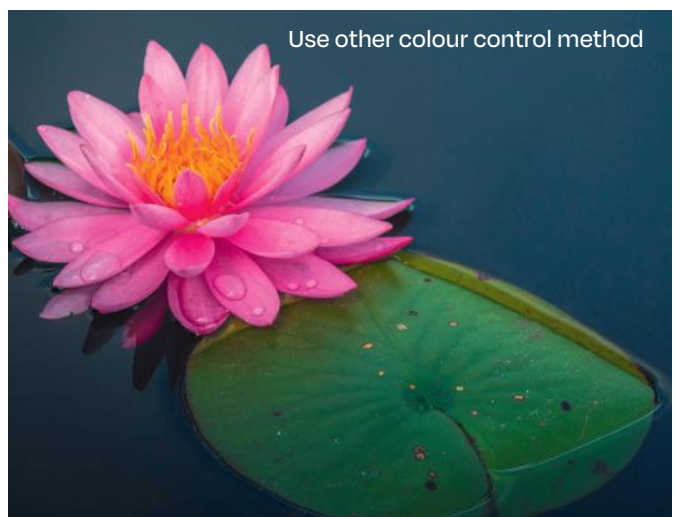
In 2017, ISO published a standard, ISO 20654 (Graphic technology — Measurement and calculation of spot

colour tone value) which proposed that Spot Colour Tone Value (SCTV) was to control spot colour halftone, i.e. the name of Colorimetric Tone Value changed to Colour Tone Value. However, it has not gained widespread adoption in the industry over the years.

Advanced Printing Technology Centre (APTEC) under the Hong Kong Printers Association (HKPA) has strived to promote printing standardization since 2007. In 2019, APTEC has tested and applied SCTV in 4C printing and conducted what is believed to be an unprecedented large-scale test in the industry. After multiple tests, it has

been proven that SCTV is good to apply in 4C printing and is considered a very practical method for colour control in printing. APTEC also tested in offset 7C, digital printing and flexography as well as other substrates other than paper, such as PVC, label and metal. In 2023, ISO released a new version of ISO/TS 10128 and planned to publish an updated version of ISO 12647-2, stating that Colour Tone Value (CTV) is one of the recognized methods for press calibration.

APTEC had created eight characterisation datasets (ICC profile) by using CTV on different kinds of



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substrates which had been uploaded to International Color Consortium (ICC) (www.color.org), including:

Offset:

- 1) Coated paper
- 2) Uncoated paper
- 3) CCNB (Clay Coated News Back)
- 4) One-side coated board
- 5) Coated paper (CMYKOGV)

Flexography:

- 1) PVC
- 2) Label
- 3) Coated paper

Characteristics of CTV:

- Controls the output curve of the RIP, similar to the TVI calibration curve
- Calculates dot values using Lab/XYZ colour data
- Measures the colour values of tones
- Does not measure density and does not require the use of RGB filters for measuring and calculating dots
- Use linearisation to calculate colour values
- Measures the LAB colour values of tone of each primary colour

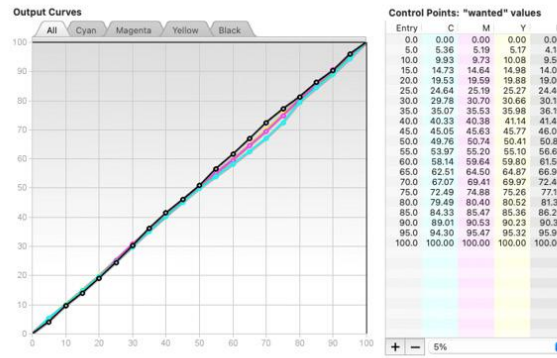
Benefits of CTV:

- Can be applied to different printing methods (offset, flexo, digital, gravure)
- Can be applied to spot colour, 4C, and multi-colour printing, especially for the colour tone
- Can be used with any printing ink and on any printing substrate
- Can be used with any screening ruling or screening methods (AM screen, FM screen, hybrid screen, continuous tone)
- Color matching is much easier for different press machines, proof-to-press, before and after lamination / varnishing
- Easy to master because it is the same as traditional printing control of printing dots, but simultaneously monitors the dot colour
- Ideal for packaging printing, with the 4C and spot dot curves calculated and used in the same way
- Smoother gradation, more detailed and better colour contrast

The steps for CTV press calibration

The first step is to perform linear printing, i.e. no compensation curves are used to ensure that an input dot

value of 50% outputs as 50%. It is best to measure the dot on the plate at each 10%, and checking the uniformity across the left and right of the printed sheet. It is recommended that the tolerance for dot controlled within +/- 1%. If the output result for the 50% dot is not 50%, no worry! Relevant data for the plate can be recorded as a reference for subsequent quality control.



Calculate CTV compensation curve

Next is the preparation for press run. Check all the physical and chemical variable factors for the press machine, such as water, rubber blankets, pressure, etc. The press machine must remain stable and repeatability, and various variable factors should

be recorded. Conduct the press run based on the following CIELab values requirements for the solid colours. The first set of linear plate printing is crucial as it helps us to understand the performance between the press machine, ink and paper, allowing for adjustments as needed to achieve the best printing results.

File	L*	a*	b*	CTV Print
0	93.94	2.21	-6.39	0
2	93.34	1.55	-6.6	2
6	93.34	1.55	-6.6	2
10	88.83	-2.12	-11.58	12
20	84.46	-5.28	-16.96	22
30	80.18	-8.53	-22.31	33
40	75.98	-11.74	-27.28	42
50	70.89	-16.04	-32.67	55
60	67.66	-17.69	-36.54	62
70	63.92	-19.81	-40.17	71
80	60.29	-22.83	-44.55	79
90	55.72	-27.95	-49.97	90
95	54.44	-28.94	-51.49	94
98	54.44	-28.94	-51.49	94
100	51.81	-31.51	-53.76	100

Table 1. Target Paper Data for Offset (Based on the target values submitted to ISO/TC130 and ICC by APTEC)

Printing condition	One-side Coated Board			Clay Coated News Back (CCNB)		
	L*	a*	b*	L*	a*	b*
Printing substrate	95	1	-1	89	1	-3
Black	14	0	0	15	1	1
Cyan	54	-35	-51	53	-33	-48
Magenta	48	75	-2	44	71	-2
Yellow	88	-3	93	84	-7	88
Red (M+Y)	49	69	48	44	66	43
Green (C+Y)	47	-65	20	47	-65	25
Blue (C+M)	23	21	-46	21	22	-42
C+M+Y Solid	22	-1	0	20	0	1
Printing condition	Coated Paper			Uncoated Paper		
	L*	a*	b*	L*	a*	b*
Printing substrate	94	2	-4	94	2	-10
Black	15	0	0	32	2	1
Cyan	55	-34	-53	59	-21	-47
Magenta	48	76	-4	55	61	-4
Yellow	88	-4	92	88	-4	72
Red (M+Y)	47	68	45	52	58	25
Green (C+Y)	48	-67	23	52	-41	12
Blue (C+M)	25	20	-47	38	11	-32
C+M+Y Solid	25	-1	-2	35	0	-6

** White backing is applied for the measurement

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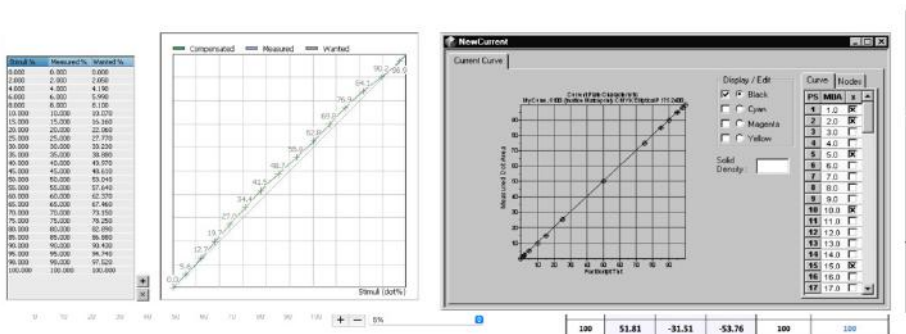


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Apply CTV compensation curve

After achieving the target values, measure the entire CTV tone targets and use software to calculate the CTV/SCTV calibration curve, then inputting the control points into the RIP.

After completing linear print, the next step is CTV calibration print, with the same ink key settings for proceeding normal print. The idea requirement for CTV calibration is that the Δ CTV targets for 25%, 50%, and 75% are 0, with a tolerance of ± 3 . For example, the printed 25% dot should fall between 22% and 28%. The calculation for the CTV can refer to "ISO 20654:2017 Graphic technology — Measurement and calculation of spot colour tone value".

During this process, tools and software provided by X-Rite or Techkon can be used to monitor print dots, such as eXact spectrophotometer and SpectroDens. After calibration, just check if the 50% dot achieves approximately 50, that means dot gain does not need to be considered. At the same time, check the tone tolerance values for OK print and production run.

At the same time, attention must be paid to the paper colour, as different papers can directly affect the printed colours, particularly noticeable in highlight area. Another factor is the optical brightening agents (OBA), which can also affect visual perception and measurement values. There are two methods to evaluate OBA content, i.e. ΔB and $\Delta CIE Lab b^*$.

For non-standard paper, paper relative calculation is used, called Substrate Corrected Colour Aim (SCCA), a linear correction technique based on tristimulus values. The basic concept is to adjust the ink's CIE Lab target values according to the actual paper colour, using the corrected solid ink values as the printing targets.

After completing the CTV calibration, a compensation curve is generated, which will be used in the subsequent printing production process. By continuously monitoring whether the 50% dot prints at 50%, printing stability can be ensured. If the output of the 50% dot deviates from the target, it may indicate a change in the press



Testimonials from CTV Certified Printing Company:

"CTV calibration applying in 7C multi-colour can easily result in smooth gradation and much detailed images. We will apply CTV in our real job production. CTV enhances calibration efficiency by 8% and reduce paper consumption by approximately 5%." From Mr. Ngan, Prepress Manager of Safe Power Printing & Box (Dong Guan) Mfg. Co., Ltd.

"We have applied CTV in production. CTV method is simple to operate and easy to master, and it performs outstandingly in colour matching. Packaging printing always requires the small colour difference within $\Delta E 2$. CTV method meets this stringent quality standard exactly.

At present, we are also fully implementing CTV in our digital proofing. In addition, for certain product designs that include gradient elements, CTV can deliver even greater advantages—ensuring smooth gradation and with better image details." Mr. Cheung from Shenzhen Nine Stars Printing and Packaging Group Co., Ltd.

To learn CTV or get certified To learn CTV or get certified, please contact Brenda Pang, Executive Director of APTEC at brendaok@aptec.hkprinters.org or visit <https://www.ctv-aptec.org/>.



Requirements for CTV production tolerances

Tone Values	Deviation Tolerance	Variation Tolerance
	OK print	Production print
< 30	± 3	± 3
30 to 60	± 3	± 3
> 60	± 3	± 3
CMY Maximum mid-tone spread	≤ 5	≤ 5

Monitoring Print Production

To control print quality effectively, it is necessary to measure the colour bar and record the 4C solid ink density and LAB values, including wet and dry density, as well as the LAB values for overprint RGB, CTV tonal dot and gray balance. These are all key parameters for quality control.

machine's condition. Additionally, if printing in different types of paper, the existing compensation curve may no longer be applicable, then recalibration may be required.

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1060



Productivity	Up to 11,000 B1 sheets/hour
Width	Up to 1060 mm x 750 mm (41.7 inch x 29.5 inch)
Colors	CMYK (up to 7 colors optional) + primer + varnish

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Are you a packaging converter seeking a cost-effective way to print short runs of packaging? Capable of printing at killer speeds, the SpeedSet Orca 1060 sheetfed water-based inkjet press is set to make massive waves in the packaging printing market. With its stunning quality and its capability to handle a wide range of media, this cost-effective solution will enable you to dive into a sea of opportunities.

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AGFA 

Strategic innovation drives growth for Splash Graphics

Built on more than 30 years of bold strategic moves and technology partnerships, Splash Graphics continues to think bigger—most recently by expanding its flexographic platemaking operations with a second FLEXCEL NX System.



“

For us, the most important benefit of working with Miraclon and FLEXCEL NX Technology is taking advantage of their steady drumbeat of innovation,” says Splash Graphics co-owner Dhiren Sanghani.

“For us, the most important benefit of working with Miraclon and FLEXCEL NX Technology is taking advantage of their steady drumbeat of innovation,” says Splash Graphics co-owner Dhiren Sanghani. “The Miraclon technical team is constantly making improvements, coming up with new technological differences every few years.”

That steady drumbeat of innovation is also why the Chicago-based pre-media provider recently expanded its flexographic platemaking operations by adding a second FLEXCEL NX System—this time a 50" x 80" format. According to Dhiren, this investment “boosts platemaking capacity, increases flexibility, and helps us produce and ship a greater variety of plate sizes to printers and converters nationwide faster.”

Built on more than 30 years of bold strategic moves and technology partnerships, Splash Graphics’ latest investment continues its pattern of thinking bigger at pivotal moments in the company’s history.



Thinking Big - Innovation Milestones

The company’s growth story began in 1992, when Co-owner Valji Patel started the business in partnership with Bhavesh Vanani and Dhiren. Initially providing prepress services to Chicagoland printers, they made the first major pivot in 1995 by adding multi-color presses and finishing systems, transforming into a full-service printing company.

Splash Graphics’ next big move occurred in 1999 with computer-to-plate (CTP) technology. Though it was a new technology at the time, they jumped into the deep end by investing in the largest Creo CTP available — a 58" x 78" unit — and a Creo digital proofing system. Valji Patel notes: “Besides feeding our own presses, we were shipping large-size plates all over the country. We were early adopters of this game-changing technology.”

In 2006, Splash changed the game decisively once again by selling its printing operations and returning to a focus on prepress and platemaking services. Valji explains: “Instead of prepress diminishing—as we had feared in 1995—our prepress was flourishing, so this became our 100% focus. Two years later, in 2008, we expanded into flexo prepress with FLEXCEL NX Technology.”

Today, the company is focused on brand support, flexo, and offset prepress services. Prepress for food packaging is the company’s largest market at 60%, followed by medical, healthcare, and shrink-sleeve labels. Additional services include packaging mock-ups and large-format display and signage.

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Strategic innovation drives growth for Splash Graphics

Continued from previous page



'Always looking for differentiation'

Dhiren describes the 2008 move into FLEXCEL NX Technology as "a deliberate effort to differentiate ourselves from the competition." Valji and Bhavesh took on the task of evaluating the flexo platemaking options. FLEXCEL NX Technology had only just come on the market, but their verdict was that it was the "something different" they were looking for.

"Flat-top dot technology was genuinely revolutionary, unlike anything else around, and delivered unmatched image quality and consistent print results on customers' presses," adds Bhavesh.

“

Flat-top dot technology was genuinely revolutionary, unlike anything else around, and delivered unmatched image quality and consistent print results on customers' presses," adds Bhavesh.

A partnership that keeps evolving

Dhiren credits continuous advances in FLEXCEL NX Technology with sharpening the company's competitive edge: "The Miraclon technical team is constantly making improvements. PureFlexo™ Printing is a classic example—we were a beta site for the triple-form patterning and now use it whenever the work suits it."

"Miraclon's commitment to innovation fits perfectly with our own philosophy of constantly offering customers new solutions through pressroom problem solving and press optimization. After all, we've been there—our journey from prepress to printer and back to prepress makes Splash Graphics uniquely qualified to help customers improve quality, productivity, and repeatability."



Splash Graphics at a glance



Founded: 1992



Core strength:
Prepress and platemaking



Markets served:
Food packaging, medical, healthcare, shrink-sleeve labels



Services:
Flexo and offset prepress, packaging mock-ups, display and signage

Built on more than 30 years of bold strategic moves, innovation, and technology partnerships, Splash Graphics continues to set the standard in flexographic prepress.

The journey continues.

The focus remains the same—helping customers print better, every time.

Thank you for taking the time to read our story. >>



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"Strategic Investments for Competitive Future"

Constant Packaging Corporation -

That modest operation began with little more than a handful of machines, a tight-knit team, and an unwavering commitment to craftsmanship. In an era when resources were limited and competition was largely informal, Mr. William focused on building trust—one client, one project, one printed sheet at a time. His belief was straightforward: if the work spoke for itself, growth would follow.

Over the years, the company's philosophy proved resilient. It evolved with market demands, expanding from basic print services into more advanced packaging solutions. Investments in new technology were driven not by trends, but by a commitment to quality and meeting clients' growing expectations. What set the company apart was its culture as much as its technical progress. Integrity was more than a slogan—it shaped every transaction, deadline, and promise. Creativity remained central, helping the business adapt to a rapidly changing industry without losing its identity.

By the time the Philippine packaging sector began its modern surge, the once-humble print shop was no longer just keeping pace—it was helping set the standard. Throughout this journey, its founding principles remain

constant, guiding their rise from a small shop in Quezon City to a trusted industry name. What started as a humble workshop, driven by grit and skilled craftsmanship, has grown into Constant Packaging Corporation—a company now recognized for its reliable manufacturing and commitment to innovation.

From Humble Beginnings to Industrial Momentum

Constant Packaging began by producing labels and shoeboxes for local industries, building technical expertise and strong client relationships. By 1992, it expanded into a larger factory and invested in a Speedmaster 102, transforming into a more competitive operation capable of handling high-volume, sophisticated printing.

A Fire, A Turning Point, A Remarkable Recovery

In 2009, a fire broke out at the factory, threatening to halt operations and undo decades of progress. Against the odds, the company's crucial SM 102 press survived the blaze untouched. That stroke of luck—combined with the team's determination to recover swiftly.

Rather than slowing down, the incident became a turning point. By 2010, the Valenzuela site expanded once again with the installation of two CD 102, 5 color press with coaters and a CD 102, 6 color press with coater. These additions significantly boosted production capacity and reinforced the company's ability to meet rising demand.

Innovation Amid a Global Crisis

As the sector transformed, Constant Packaging embraced technological advancements wholeheartedly. A recently acquired machine, set up just prior to the onset of the pandemic, turned out to be crucial during a period when worldwide upheavals challenged enterprises to their peak. Chairman William Chan recognized its effects right away: reduced waste, quicker preparation times, and enhanced workflows. At a moment when productivity was vital, this expenditure emerged as one of the firm's significant strengths. Their efforts to modernize continued beyond this point.

A New Factory, New Machines, and a Renewed Vision



a Sustainable and

In a newly constructed facility in the northern part of the National Capital Region, Constant Packaging further expanded its machine lineup with the installation of the CX 104 6+L. This advanced equipment strengthened the company's ability to meet complex packaging requirements with speed and consistency.

Heidelberg User experience is a distinctive aspect of navigation and extensive support systems, which stands out in the CX 104 press. Easy operation, high level of automation for short make ready times, and a reliable process are what simplify the printing process more than ever. CX 104 can accommodate a wide range of substrates from thin paper to cardboard.

Optimizing OEE to boost production profitability for customers via digital integration and the utilization of digital information that provides a distinct emphasis on performance that is independent of operators through smart operations is what the customer requires.

To complement its high performance offset machines, the company also enhanced its Postpress capabilities, adding:

- Two Easymatrix 106 CS Cutting and Stripping Die Cutters
- A Promatrix 106 CS with MasterSet, an optical register system ensuring pinpoint sheet alignment during die cutting

Boosting speed even further, the company invested in the Bestfold FB 1000 Folder Gluer, capable of running at a rapid 400 meters per minute, enabling faster turnaround times while maintaining premium quality.

Sustainability, Technology, and the Road Ahead

Today, Constant Packaging stands at the intersection of innovation and responsibility. As sustainability becomes a global imperative, the company is actively integrating eco friendly materials, optimizing energy use, and reducing waste—all while preserving the quality that customers have trusted for decades.

From its beginnings as a small print shop to its emergence as a technologically advanced packaging manufacturer, Constant Packaging has remained anchored in its founding values: creativity, quality, integrity, and unwavering dedication.

The company's past is its foundation—not its finish line. And as Constant Packaging continues to grow, evolve, and embrace new possibilities, one truth remains clear:

The story isn't over. The best chapters are still ahead.



Komori School Held in Vietnam - The First Overseas Session

Komori held its first-ever Komori School overseas in Vietnam. Two instructors from the Komori Graphic Technology Center (KGC) in Japan participated, along with 17 attendees from eight local printing companies.



For the first three days, the training was held at NewLifePack Co., Ltd. in the Cu Chi District near Ho Chi Minh City, using a six-color Lithrone G40 advance with coater. The program combined classroom lectures with hands-on training using the actual press. For the final two days, the venue moved to TOIN VIETNAM CO., LTD., where practical lectures focused on addressing the specific challenges that attendees face on the shop floor.

Background

In the offset printing industry, opportunities for press manufacturers to provide systematic technical training at overseas sites have been limited to date.

In Vietnam, the number of Komori press installations has grown steadily over the past decade. Supported by a young workforce, the market shows a strong willingness to actively adopt new technologies and knowledge. In addition, foreign investment in Vietnam continues to expand, and further market growth is anticipated. Against this backdrop, Komori launched its first overseas Komori School in Vietnam.

Program Overview

The theme of this Komori School was "Maximizing the Performance of Komori Presses." The curriculum combined classroom study with practical exercises and covered a wide range of topics, including maintenance

fundamentals, the effects of consumables and dampening water on print quality, key concepts and best practices for reducing job changeover times, effective color management, and press operation techniques.

The KGC instructors provided individualized, hands-on guidance, enabling attendees to immediately apply what they had learned at their own facilities. Participants shared positive feedback, including comments such as "I finally understand the root cause of print troubles that had plagued me for years," "I have added many more tools to my troubleshooting toolkit," and "The instructors were dedicated and generous in sharing their knowledge." Initiatives such as this contribute not only to improving press operation skills, but also to strengthening trust in the Komori brand.

Results and Outlook

Through this event, we gained a strong sense that Komori School can provide

significant value to customers overseas as well. Holding the program locally in Vietnam also enabled us to reach and engage with a larger number of printing companies, which was another major achievement. Komori will continue to develop practical training programs in collaboration with local customers, with the aim of further enhancing their technical capabilities and supporting the continued development of the Vietnamese printing industry.

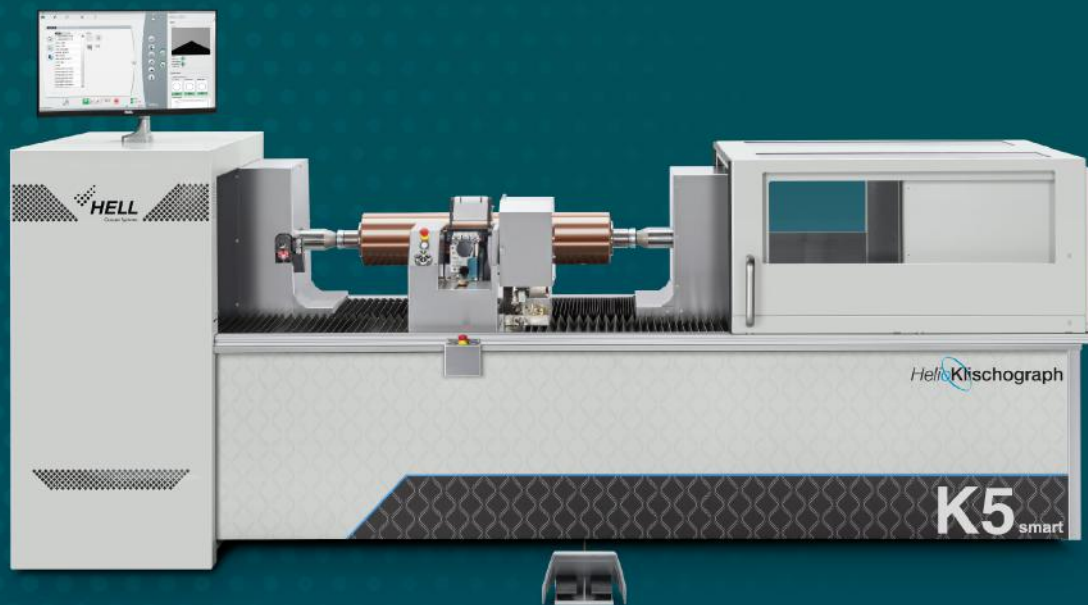
Acknowledgments

Finally, Komori would like to express its sincere gratitude to NewLifePack Co., Ltd. and TOIN VIETNAM CO., LTD. for their tremendous cooperation in making this Komori School possible. Both companies generously provided their presses and supported the operation of the training venues in many ways.

Thanks to their understanding and support, Komori was able to provide practical, hands-on training using presses in actual production environments. Sharing a common commitment to the advancement of the Vietnamese printing industry, Komori once again extends its heartfelt thanks to both companies for their generous support and cooperation in this initiative.



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Seamless interplay of AutoRun, AutoSet, and JobGuide standardises shift workflows

- Fully automatic job changes using AutoRun and AutoSet eliminate manual set-up steps and significantly increase the machine's net production time
- JobGuide proactively guides personnel through all accompanying processes, ensuring consistent printing performance regardless of shift staffing
- Integrated touch panels and visual projector systems simplify operation and counteract the severe shortage of skilled workers in the industry

Koenig & Bauer presents a comprehensive package of new automation and communication solutions for all Rapida sheetfed offset presses. With systems such as AutoSet, AutoRun, and the innovative JobGuide, the company addresses the urgent shortage of skilled personnel and cost pressure in the packaging industry. The networked assistance systems perform set-up processes autonomously and standardise pressroom workflows. Customers can thus make maximum use of their production capacity while reducing waste paper and unproductive downtime.



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like production with FLEX PACK.**



Photo 2: Rapida sheetfed offset presses, such as this Rapida 145, feature assistance systems like AutoRun, AutoSet, and JobGuide that execute set-up processes autonomously and standardise pressroom operations

From operator to process manager

As print jobs become increasingly smaller, set-up times dictate profitability in printing. New and in part unique automation solutions support this process:

- AutoSet calculates all necessary set-up steps in advance – from ink changes to format adjustments.
- AutoRun then takes over and executes these processes fully automatically. The press operator no longer intervenes manually in these workflows. This frees up valuable time to prepare consumables or new pallets in parallel. The press runs continuously, producing without avoidable idle periods.

Consistent performance across all shifts

Technical features alone do not solve staffing bottlenecks. Individual process steps must still be performed manually or semi-automatically by the operator. JobGuide therefore completely re-orchestrates communication at the press.

The system sends proactive step-by-step instructions during the set-up process or production directly to the operator or to a separate panel for the assistant. If a coating plate needs to be changed or ink needs to be prepared, JobGuide provides precise guidance to staff.

Thanks to its multilingual capabilities, JobGuide can also overcome language barriers. Combined with intuitive touch panels or automated checking of coating knock-outs via FormCheck, error rates are reduced even further. Printing companies standardise their process workflows and achieve consistently high quality, completely independent of the experience level of the operating staff.

“Our customers are under immense pressure to produce complex packaging and high-quality commercial jobs even more profitably,” explains Sebastian Stange, Head of Product Management at Koenig & Bauer Paper & Packaging Sheetfed Systems. “The new assistance systems on our Rapida presses are our concrete response to this market trend. We are delivering an intelligent tool that supports the operator just like a modern driver assistance system in a car. In doing so, we turn the press operator into a supervisor of the machine and safeguard our partners’ competitiveness.”

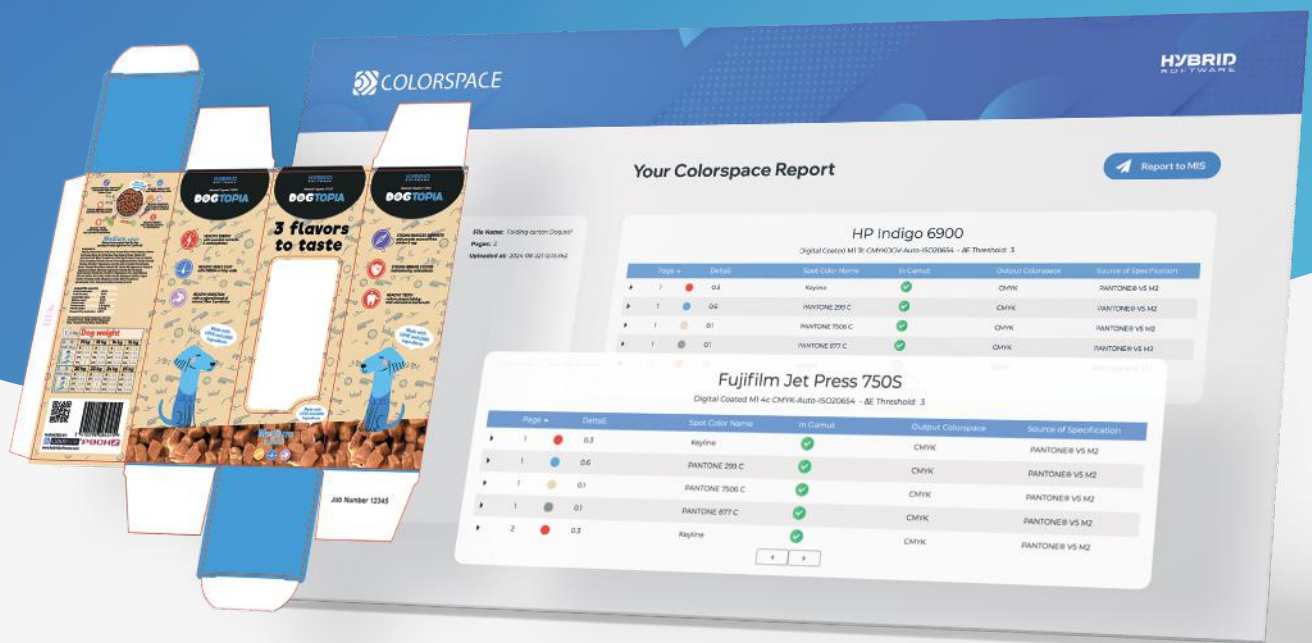
Live in a real production environment

Koenig & Bauer invites printing companies to test this networked automation live during individual press demonstrations and tailored specialist events at the Customer Experience Center in Radebeul. Regional Koenig & Bauer sales contacts are available for further information and appointments.



Our integrated color management solution in prepress and production workflow.

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The economics of folding carton have changed. Here's why digital wins.

The folding carton market is entering one of its most dynamic periods in decades, and for converters who move at the right moment, that represents a significant commercial opportunity.

Digital printing is at the centre of that change. With no plates, no makeready waste, and job changeovers measured in minutes rather than hours, it offers a fundamentally different production model; one that's increasingly aligned with how brand owners want to specify and order packaging today. **SpeedSet Orca** is an example of this principle, running at 11,000 B1 sheets per hour to bring industrial-scale capability to work that was previously unprofitable to produce.

■ The economics have already changed

The folding carton work coming through production facilities today looks nothing like it did five years ago. Brand owners are proliferating SKUs at pace, with a noticeable rise in limited editions, regional variants, promotional packaging, and regulatory-driven changes. The pharmaceutical sector demands serialisation and track-and-trace, while premium food and beverage brands want personalisation and seasonal launches that turn around in weeks, not months.

This isn't a fleeting trend, it's industry-wide change driven by retail dynamics that aren't reversing. The result is that average run lengths are dropping. Converters are quoting more jobs for fewer sheets.

And most importantly in a cost-sensitive market, every plate change, makeready hour, and sheet wasted in offset setup erodes margin on work that's increasingly unprofitable to produce conventionally.

Digital doesn't just solve this problem; it inverts the economics.

No plates or makeready waste. Job changeovers in minutes, not hours.

Agfa's **SpeedSet Orca** runs at 11,000 B1 sheets per hour. That's not a niche anymore, but a significant and growing portion of the work converters handle daily. Plus, since converters can produce exactly what's needed, whenever it's needed, there are no minimum order quantities (MOQs) forcing customers to over-order or hold excess stock that risks becoming obsolete. Digital production eliminates the write-offs that can come with spec changes, rebrands, or discontinued SKUs sitting in warehouses.



Quality isn't the question

The **SpeedSet Orca** delivers 1200 dpi resolution with a colour gamut that meets industry standards for brand consistency. Converters aren't being asked to compromise on quality or ask their customers to accept 'good enough for digital,' the technology delivers offset-equivalent output.

The name isn't accidental. Like its oceanic namesake, the **SpeedSet Orca** combines intelligence, agility, and dominance in its environment.

It's the apex predator in digital folding carton printing - a press that doesn't just compete with conventional processes but redefines what converters can expect from production equipment.

The substrate range matters here too. The **SpeedSet Orca** handles everything from 0.2mm paper to 2mm microflute, making it suitable for folding carton, shelf-ready packaging, and micro-corrugated jobs. Far from being a specialist machine for occasional short runs, it's a production press that fits into demanding, mixed-work environments.

■ The automation advantage is real

Where digital moves from viable to superior is in operational simplicity. Offset presses require skilled operators who can manage colour calibration, register, and makeready. Those operators are increasingly difficult to find and expensive to retain. Digital presses reduce that dependency dramatically because the learning curve is shorter, and the setup is faster. The consistency is built into the technology rather than being reliant on individual expertise.

For converters operating in tight labour markets, which is most of them, this is a major benefit that lets operations maintain productivity with leaner teams and less operational risk.

The **SpeedSet Orca** also integrates with Agfa's **Asanti workflow software**, which automates job planning, colour management, and production scheduling. This isn't just about the press; it's about the entire production ecosystem working intelligently to maximise uptime and minimise touchpoints.

Asanti 8's StackFlow takes this functionality even further by addressing the complexity of multi-location retail fulfilment.

Using content lists - pre-collated sequences based on order data - enables the **SpeedSet Orca** to print folding carton blanks in the precise order they need to be packed and shipped.

Instead of printing in bulk to be manually sorted by destination, converters can produce pre-collated stacks with interleaved sheets separating each location's order. The downstream benefits include faster fulfilment, fewer errors, and scalability that manual sorting struggles to match.



■ The flexibility premium

Something important shifts when a folding carton converter adds digital capacity: the commercial conversation changes.

Suddenly, jobs that were previously unquotable become viable. Rush orders with 48-hour turnarounds, test marketing runs of 500 units, and seasonal packaging that needs three versions. These aren't theoretical use-cases anymore, they're exactly the kind of work brand owners need.

The **SpeedSet Orca** doesn't just handle this work technically; it makes it commercially attractive. No minimum run economics dictated by plate costs, no makeready time padding the quote, and no material waste inflating the price per unit.

Converters with hybrid capabilities, offset for volume and digital for agility, can say yes to a broader range of work. That versatility translates directly into stronger customer relationships and revenue from jobs that would otherwise go elsewhere or not happen at all.

■ The market is moving

Digital won't outright replace offset for long-run folding carton work because that's not the point. The point is that an increasing share of the work converters need to win, and produce profitably, suits digital better than conventional processes.

We've seen this pattern before in other segments. The converters who invested in digital capabilities early didn't abandon offset; they built hybrid operations that could profitably handle the full spectrum of work. They became more versatile, more responsive, and more valuable to their customers.

That's what the **SpeedSet Orca** enables for folding carton. Not a replacement for what's being done today, but the capability to dominate the work that's coming tomorrow.

The market's moving. The question is whether converters are moving with it.

We said “entry level”
– and created a beast



WINDMÖLLER & HÖLSCHER

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PACKAGING & PRINTED PRODUCTS

THE COMPLIANCE SQUEEZE

New restrictions in the United States, Europe and Asia-Pacific are turning packaging design, print claims, material data and end-of-life performance into market-access requirements.

Packaging compliance was once treated mainly as a technical approval exercise: confirm the substrate was safe, check the mandatory product information and release the artwork. That model is disappearing. Regulators now want to know who supplied the package, who placed it on the market, what chemicals and materials it contains, whether it can be collected and recycled locally, how much empty space it carries, how much recycled content has been used and who will pay for its recovery after disposal.

Environmental language printed on the pack is also moving into the compliance file. Words such as "green", "eco-friendly", "recyclable" and "sustainable" can no longer be treated simply as marketing copy. In several markets they are regulated claims that must be supported by evidence appropriate to the destination country or state.

The package is no longer just a container. It is a regulated data carrier.

COMPLIANCE NOW REACHES DESIGN, PREPRESS, PROCUREMENT AND PRODUCTION

For printers, converters and brand owners, this creates a difficult commercial reality. A technically identical carton, label, pouch or printed insert may require different declarations, recycling language, deposit marks, producer registrations and records in California, Germany, China and Singapore. Compliance therefore has to be built into the specification before the first production file reaches prepress.

United States: a state-by-state market

The greatest US challenge is fragmentation. There is no single federal packaging law covering every environmental obligation. Instead, producers face a growing collection of state extended producer responsibility programmes, chemical restrictions and truth-in-recycling rules.

Seven states had enacted packaging EPR legislation by 2026. Although the principle is similar – shifting some or all of the cost of collecting, sorting and recycling packaging from local authorities to producers – the definitions, exemptions, covered products, reporting systems and implementation dates differ. The company treated as the legal producer may also change

depending on the state and the sales route. It can be the brand owner, manufacturer, importer, distributor or retailer.



One pack can require different producer registrations, recycling claims and material evidence in each destination market.

EPR moves from legislation to invoices

Oregon's packaging EPR programme began operating in July 2025 and covers packaging, foodservice ware, and printing and writing paper. That brings some publishers, catalogue suppliers and printed-paper users into the discussion as well as conventional packaging producers. Affected companies must register, report the materials they supply and contribute to the cost of the recycling system.

Colorado also requires producers of covered packaging and paper products to participate in its approved programme. Since 1 July 2025, a producer generally cannot sell or distribute covered materials in the state without meeting the participation requirements. Washington's 2025 Recycling Reform Act covers residential packaging and paper products, while Minnesota is still building the detailed assessments and systems that will support its programme.

The practical lesson is that companies must separate enacted law from an obligation that has already reached registration, reporting or payment. A national spreadsheet saying "EPR applies" is not enough. The business needs a state-by-state calendar, a named producer for each sales model and packaging weight data that can survive an audit.

California changes cost and artwork

California's Plastic Pollution Prevention and Packaging Producer Responsibility Act, commonly known as SB 54, is among the most consequential US laws. Permanent implementing regulations took effect in May 2026. The legislation establishes major 2032 objectives, including reductions in single-use plastic pack-

aging, a 65 per cent recycling rate for covered plastic materials and a requirement for covered packaging to be recyclable or compostable.

The commercial effect will be felt much earlier as producers redesign packs, report material volumes and respond to fee structures intended to reward formats that perform better in the recycling system.

California is also tightening the symbols and language used on packaging. Under SB 343, restrictions affecting chasing-arrow symbols and recyclability representations apply to products and packaging manufactured after **4 October 2026**. The relevant date is manufacture, not the date of sale. Companies holding pre-printed packaging therefore need records showing when it was produced and which artwork version was used.

The Federal Trade Commission's Green Guides generally allow an unqualified recyclable claim only when appropriate facilities are available to at least 60 per cent of the consumers or communities where the product is sold. California's separate rules mean that a claim acceptable under federal guidance may still fail a state test. Phrases such as "widely recyclable", "check locally" or "recycle where facilities exist" are now part of regulatory approval, not merely copywriting.

PFAS remains a food-packaging priority

The US Food and Drug Administration has completed the market phase-out of grease-proofing agents containing PFAS for food-contact use. Individual states may impose wider restrictions. New York, for example, prohibits intentionally added PFAS in food packaging. A converter cannot rely on a broad declaration that a coating is "US compliant". The declaration must be current, specific to the supplied material and checked against every state in which the package will be distributed.

US COMPLIANCE AT A GLANCE

EPR: live programme duties already affect Oregon and Colorado, with further state systems developing.

Artwork: California SB 343 changes recyclability claims and symbols for packaging manufactured after 4 October 2026.

Chemicals: food-contact PFAS evidence must be checked against both federal and state restrictions.

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EUROPE AND THE UNITED KINGDOM

One regulation, an entire redesign cycle

Europe's new framework combines market-access restrictions, future recyclability grades, recycled-content targets and tighter control of environmental claims.

The European Union's biggest change is the Packaging and Packaging Waste Regulation, or PPWR. Regulation (EU) 2025/40 entered into force in February 2025 and generally became applicable on **12 August 2026**. It covers packaging of every material and applies whether the packaging is manufactured inside or outside the EU. Importers and overseas suppliers therefore need the same technical evidence as European manufacturers.

Not every requirement arrives at once. Detailed design-for-recycling criteria, recycled-content rules, reuse targets and parts of the labelling regime will be phased in through later dates and implementing measures. Even so, treating PPWR as a 2030 problem would be a serious mistake. Packs being designed now may remain in production when the later requirements become mandatory.

An immediate PFAS restriction

From 12 August 2026, food-contact packaging cannot be placed on the EU market where PFAS concentrations exceed prescribed limits. The regulation includes thresholds for individually targeted PFAS, the sum of targeted PFAS and total PFAS including polymeric forms, subject to its measurement conditions.

The transition has to be managed carefully. There is no general stock-exhaustion exemption for food-contact packaging first placed on the market after the application date simply because it was printed earlier. Packaging already placed on the EU market before that date can continue through the supply chain, but unused packaging stock may not automatically remain compliant.

Printers and converters supplying grease-resistant papers, moulded fibre, flexible packaging, release coatings, varnishes or barrier treatments should obtain current declarations covering the complete construction, not only the base substrate. An old supplier statement that says "no intentionally added PFAS" may also be insufficient where the regulation applies concentration limits.

Recyclability, empty space and efficiency

PPWR establishes the framework under which packaging is expected to become recyclable, with detailed performance grades being introduced towards 2030. Recycled-content requirements, reuse targets and restrictions on selected single-use formats will also be phased in.

From 2030, grouped packaging, transport packaging and e-commerce packaging will generally face a maximum empty-space ratio of 50 per cent. Space filled with paper cuttings, air cushions, bubble wrap or foam can still count as empty space. The implication goes beyond reducing the size of a box. Brand owners need dimensional data, evidence explaining why space is technically necessary and tighter control over fulfilment operations.

Decorative components will also come under pressure. Metallised laminates, permanent adhesives, heavy coatings, windows, inserts and mixed-material embellishments may reduce the

recyclability grade of the complete pack even when each component can be described as recyclable in isolation.



Recycling marks are becoming controlled market claims. The right instruction depends on the complete pack and the collection system in the place where it is sold.

Environmental claims become regulated copy

A second EU change follows shortly after PPWR. Rules introduced through Directive (EU) 2024/825 apply from **27 September 2026**. They restrict generic environmental claims such as "green", "environmentally friendly" or "eco" where recognised excellent environmental performance cannot be demonstrated. Sustainability labels must be based on an approved certification scheme or established by a public authority.

The rules can affect old packaging that remains on sale after the application date. Corrective labels, revised sleeves or information at the point of sale may be needed where existing stock carries a non-compliant claim. The same risk extends beyond the pack to catalogues, inserts, brochures, display material and online product descriptions repeating the statement.

The compliance question is therefore not whether a phrase sounds reasonable. It is whether the company holds sufficient, current and market-relevant evidence to prove it.

Printed products and the EUDR

The EU Deforestation Regulation is now due to apply from **30 December 2026** for most affected companies. A late-2025 revision removed certain finished printed products, including books, newspapers and printed pictures classified under Chapter 49, from the covered product list. That does not remove every paper-related obligation. Pulp, paper and paperboard products classified under Chapters 47 and 48 may remain in scope, subject to specific exclusions.

The treatment of packaging depends partly on how it is supplied. Paper cartons and boxes classified under heading 4819 can be covered when imported or sold as products in their own right. Packaging accompanying another product and used solely to support, protect or carry it can be treated differently. Broad statements such as "all printed products are exempt" or "all paper packaging is covered" should be avoided. Tariff classification, fibre source, transaction and market role all matter.

United Kingdom: data becomes a direct cost

The United Kingdom is following a separate path from the EU. Under the UK packaging EPR system, producers have moved from collecting and reporting data to receiving disposal-fee invoices. The first invoices were issued from October 2025, with PackUK administering the system, setting fee rates and collecting producer payments.

Businesses that manufacture, import, supply or sell packaged goods in the UK may have obligations depending on turnover, packaging tonnage and commercial role. Large producers must also report recyclability assessments using the red, amber and green Recyclability Assessment Methodology.

The EPR rules do not themselves create a universal requirement to print the recyclability rating on every pack. Reporting a rating and placing a consumer-facing recycling label on the artwork are separate questions. The absence of an immediate labelling mandate should not be mistaken for an absence of data obligations.

The Plastic Packaging Tax adds another financial incentive. From April 2026 the tax is **GBP 228.82 per tonne** on finished plastic packaging containing less than 30 per cent recycled plastic. Registration is generally required where a business manufactures or imports at least ten tonnes within a 12-month period, even where some material may later qualify for an exemption or credit.

EUROPE'S PRODUCTION CHALLENGE

Artwork: environmental claims, certification marks and recycling instructions need documented approval.

Materials: declarations must cover inks, coatings, adhesives, barriers and all food-contact layers.

Stock: transition planning must distinguish manufacture, first placement on the market and continued sale.

Dates that matter next

12 AUG 2026	EU PPWR generally applies, including PFAS limits for food-contact packaging.
27 SEP 2026	EU restrictions on generic environmental claims and unapproved sustainability labels apply.
1 OCT 2026	Singapore's beverage deposit scheme becomes fully operational.
4 OCT 2026	California SB 343 restrictions apply to newly manufactured packaging carrying recyclability claims or symbols.
30 DEC 2026	The EU Deforestation Regulation applies to most affected companies, subject to revised product scope.



If you expect accurate brand colors, you'll love Multicolor

Spot colors are used particularly frequently in packaging printing. But how do you accurately reproduce spot colors in digital printing? And how can jobs be flexibly exchanged between

conventional- and digitalprint? GMG ColorServer Multicolor automatically converts all spot colors into the desired output color space.

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ASIA-PACIFIC

No single regional rulebook

Asia-Pacific cannot be managed as one compliance market. The region combines mandatory overpackaging standards, food-contact positive lists, producer registration, deposit marks, plastic-recovery targets and evolving design requirements. A declaration prepared for one country may have little value in the next.



Compliance records now need to connect the market, material, claim, supplier evidence, artwork version and production batch.

China: less empty space and tighter ink controls

China already regulates excessive packaging for food and cosmetics through the mandatory GB 23350 framework, which examines packaging layers, void space and cost. A further mandatory standard, **GB 45186-2024**, governing excessive packaging for express deliveries, took effect on **1 July 2026**. It reinforces the focus on material reduction and the dimensions and construction of e-commerce packaging.

China also has mandatory limits for volatile organic compounds in printing inks under **GB 38507-2020**. Ink type, VOC content, drying technology and supplier documentation can all affect whether a printed product is suitable for the market. A generic statement that an ink complies with European or US rules may not be enough; documentation should refer to the Chinese standard and the actual ink system used.

India: registration and food-contact print

India's plastic-packaging EPR system requires affected producers, importers and brand owners to register through the centralised portal and account for the plastic packaging they introduce. Businesses must also check that recyclers and waste processors are properly registered rather than assuming a certificate obtained through an intermediary is sufficient.

For food packaging, India's Food Safety and Standards packaging regulations require printing inks to conform to **IS 15495**. The printed surface must not come into direct contact with food, and food businesses are expected to obtain appropriate certificates of conformity for food-contact materials. The final legal duty may sit with the brand, but the evidence depends on the converter, ink supplier and substrate manufacturer.

Japan: the positive-list transition is over

Japan's positive-list system restricts the substances that may be used in relevant synthetic-resin food-contact materials. The amended list

became fully enforceable on **1 June 2025**, ending the main transition period. New food-contact resin materials must be constructed from permitted substances unless a specific exclusion applies. Suppliers of pouches, coated board, closures and multilayer structures should provide declarations covering the individual polymers, additives and food-contact layers. A broad statement that the finished material is "food safe" may not be sufficient.

Singapore: the deposit mark becomes mandatory

Singapore launched its Beverage Container Return Scheme on **1 April 2026**, followed by a six-month transition period. The scheme applies a ten-cent refundable deposit to regulated beverage containers and uses an official Deposit Mark to identify eligible packs.

From **1 October 2026**, regulated beverage products placed on the market must carry the mark and meet registration requirements. Transition stock therefore needs to be sold, relabelled or otherwise managed before full enforcement. Artwork teams must keep the approved barcode, pack size, registration and printed mark connected. A Singapore file must not accidentally be released for a neighbouring market.

Philippines: plastic recovery rises again

The Philippines' EPR legislation covers rigid packs, flexible packs, sachets, laminates, labels, bags and polystyrene products. Obligated enterprises must recover or offset a rising share of their plastic-packaging footprint. The statutory target reaches **60 per cent in 2026** and moves towards 80 per cent from 2028. Reports are independently audited, making accurate material weights, laminate structures and sales volumes essential.

Australia: current rules remain while reform develops

Australia continues to operate through the Australian Packaging Covenant and the National Environment Protection Measure framework. The federal government is developing wider reforms that may include mandatory design standards, recycled-content requirements and restrictions on chemicals of concern. Consultation proposals should not be presented to customers as enacted law. Existing covenant and state or territory obligations remain applicable until replacement regulations formally commence.

Compliance becomes part of the job specification

The direction of travel is consistent even though the regulations are not. Governments are transferring more waste-management costs to producers, demanding evidence behind recycling and sustainability claims, restricting chemicals, reducing unnecessary packaging and expecting businesses to know precisely what they place on each market.

China, India, Japan, Singapore, the Philippines and Australia are moving at different speeds and using different regulatory models.

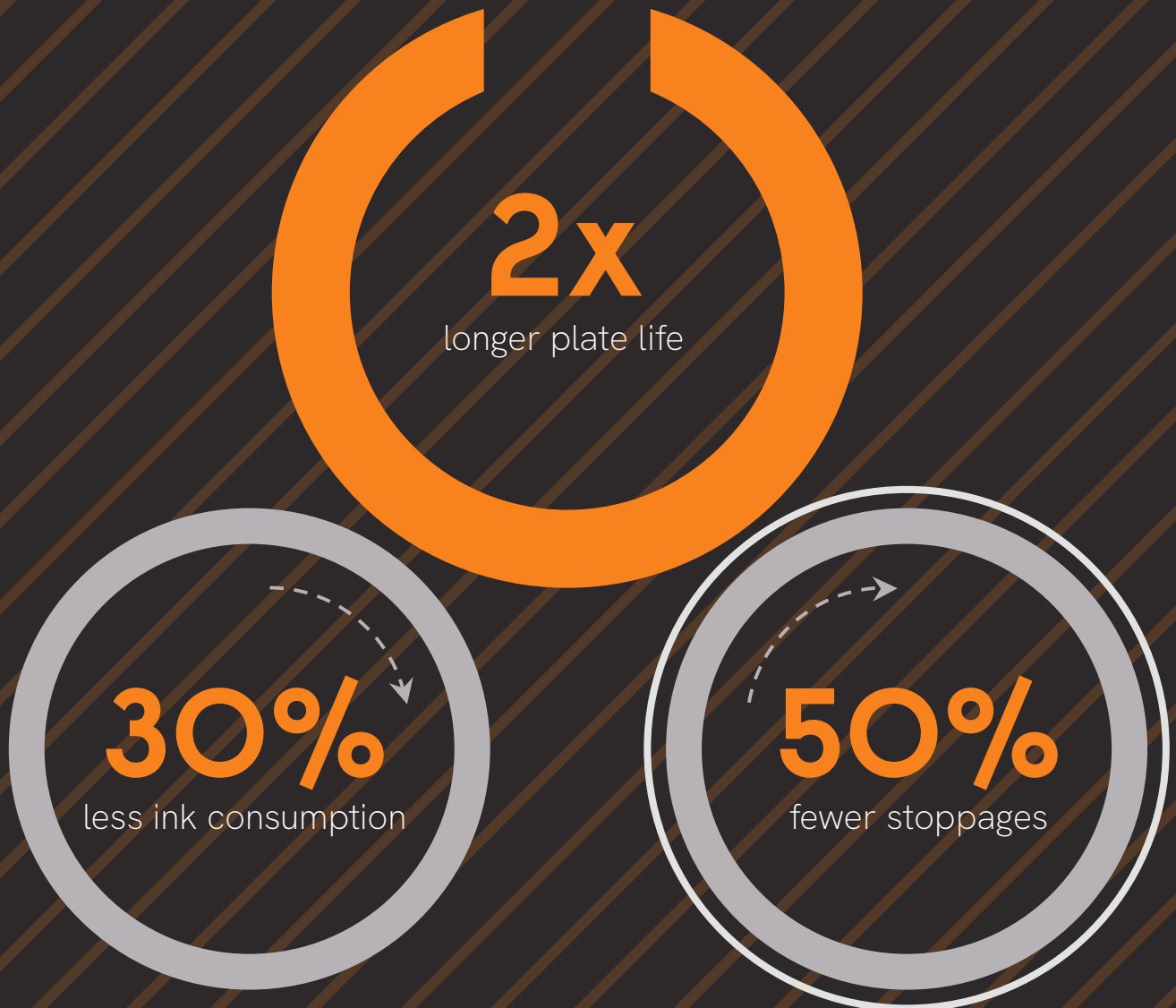
What the supply chain should do now

- 1 Build a market and SKU record.** Identify the destination, legal producer, material weights, food-contact status, symbols, claims and reporting dates.
- 2 Treat the bill of materials as regulatory evidence.** Include inks, pigments, coatings, varnishes, adhesives, barriers, films, closures and additives.
- 3 Put environmental claims through approval.** Review the words, recycling symbols and certification marks against the destination market and complete pack.
- 4 Assign ownership of EPR data.** Contracts should state who registers, reports material, calculates recycled content and pays fees.
- 5 Control transition stock.** Track manufacture, first placement on the market and continued sale; plan for relabelling or withdrawal.
- 6 Use versioning as a compliance tool.** Shorter runs and controlled digital production can reduce obsolete stock, but only when file governance is strong.

The strongest printers and converters will not regard this as the customer's problem. They will develop verified material databases, controlled artwork systems, reliable supplier declarations and market-specific production workflows. They will be able to tell a brand owner not only how a package can be printed, but where it can legally be sold and what evidence must accompany it.

Compliance is no longer an attachment to the production job. It is part of the job specification itself.

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LITHO-LAMINATING TECHNOLOGY

MASTERFLUTE TOUCH

delivers reliability and productivity over a lifetime of production

Recent visits to customer production sites confirm what BOBST has long maintained - its technology is built to last. One MASTERFLUTE TOUCH litho-laminator, still in continuous operation after 15 years, has already produced over half a billion sheets and counting.



MASTERFLUTE TOUCH | BOBST GRENCHEN

Processing 220 m/min or 12,000 sheets per hour and offering a unique registration and gluing system, the MASTERFLUTE TOUCH is a litho-laminator in a league of its own. As brand owners look for ever higher quality and converters feel the squeeze of material costs and short deadlines, reliability and precision are more important than ever.

PRECISION AT THE HIGHEST SPEEDS

Over 15 years ago, the POWERALIGNER revolutionized register precision on litho-laminators. The advanced sheet alignment system eliminates the need for a front stop and mechanical side lay. Using optical sensors to detect sheet edges, it removes mechanical stops entirely, reducing wear, eliminating the risk of sheet damage and allowing the use of lighter sheets.

Combined with a completely new sheet feeder featuring a direct-driven bridge conveyor, the POWERALIGNER positions sheets with exceptional accuracy, even at the highest production speeds. The result is unmatched reliability, consistently high output and significantly improved register accuracy.

LESS GLUE, FLATTER BOARD

Another unique feature is the GAPRO glue system, which automatically controls the glue gap to apply the minimum amount of adhesive. This reduces moisture and improves board flatness, while maintaining excellent board quality, minimizing glue consumption and reducing the need for intermediate stock levels.

These features deliver increased productivity, production flexibility and quality. Additionally, reducing waste through production accuracy, using less glue with GAPRO technology and the possibility of using lighter cover sheets can add up to considerable long-term economic advantages.

220 m/min

MAXIMUM PROCESSING SPEED

12,000

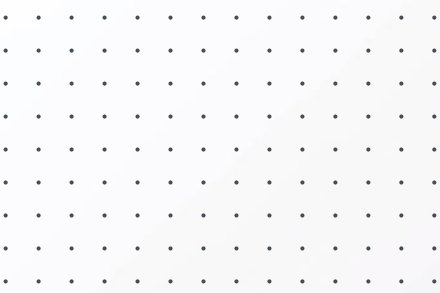
SHEETS PER HOUR

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SHEETS PRODUCED BY ONE MACHINE OVER 15 YEARS

30-50 million

SHEETS PER YEAR AT CUSTOMER SITES



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Esko - Flexo Platemaking Solutions

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POWERALIGNER connects to the SMART FEEDER, enabling automatic correction of the stack position.



Reduced glue usage results in flatter sheets that do not require extended curing time.

BUILT FOR INTENSIVE PRODUCTION

However, investing in a high-tech machine is not always without risk. Sophisticated engineering can prove sensitive and fragile when used intensively, but ensuring a sound return on investment is vital. As visits to different customers have shown, the MASTER-FLUTE is extremely reliable and consistent throughout years of intensive use.

On the shop floor, machines indicated a production rate of 30 million sheets per year and, depending on the sheet size produced, up to 50 million. Markus Zimmermann, Area Sales and Product Marketing Manager at Bobst Grenchen, highlights the importance of quality:

"BOBST litho-laminators are real workhorses, sometimes running 24/7. Long-term performance is essential for our customers, and our machines deliver built-to-last quality by combining structural robustness with advanced technology."

ACCURACY THROUGH CONTROL

"Our technology is still ahead of its time," says Daniel Müller, Site Manager at Bobst Grenchen. "Now that we have developed our own central processing unit, which optimizes the drive control and monitors electronic zero points, the sheet position - both laterally and in the machine direction - is corrected automatically. This increases running accuracy and minimizes the adjustments necessary at the POWERALIGNER."

This compensates for setup variations, improves motion control and enhances consistency and precision, reducing setup time and waste.

This CPU can be retrofitted into existing litho-laminators. "Of course, we are happy to supply new machines," says Müller, "but we are also fully committed to supporting our customers in maximizing the return on their investment." This includes service and support benefits such as quality parts and consumables, as well as upgrading or remanufacturing.

"Of course, we will continue to develop our machines, increasing automation, making them easier to run and digitalizing the workflow. But whatever changes we introduce, quality, productivity and reliability are non-negotiable," concludes Daniel Müller.



MASTERFLUTE TOUCH LITHO-LAMINATOR

A woman in profile is looking towards a large industrial machine. The machine is emitting bright blue and purple light beams, creating a futuristic and high-tech atmosphere. The woman is wearing a dark top and has her hair pulled back. The machine has various components, including a control panel with buttons and a small display. The background is dark and industrial, with other machinery visible in the distance.

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IST

Why Packaging Jobs Stall Before They Reach Press

Written by Alexandra Blanck
Content Manager, Esko

Alexandra Blanck, a member of the Esko Corporate Marketing team, is known for her dedication to crafting engaging content.



Production problems rarely start on press. They start long before a job ever reaches it.

Ask converters what slows work down, and the answer is often the same: too much time spent waiting for information, clarifying requests, or handing work back and forth between teams.

These interruptions create more than delays. They force people to stop what they're doing, shift focus, and resolve issues that could have been prevented earlier in the workflow.

This constant context switching introduces quality risks, slows response times, and puts additional pressure on customer service teams.

In many cases, production teams become the final checkpoint for problems introduced much earlier in the workflow. For example, prepress may finish preparing a job for production only to discover a structural designer needs to update the CAD file before production can continue. What looked like a finished job suddenly requires another round of reviews, approvals, and handoffs before anyone can move forward.

The individual issues may seem small - a delayed approval, a missing specification, or a last-minute file correction - but together they create operational friction that impacts throughput, consistency, delivery timelines, and overall efficiency.

Where Packaging Workflows Commonly Break Down

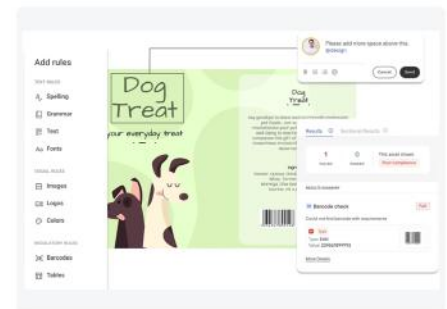
Workflow breakdowns can occur at nearly every stage of the packaging process. While every operation is different, several challenges appear consistently across converter environments.

Job Intake & File Preparation

Many workflow issues begin at the earliest stages of production preparation:

Customer inputs may arrive incomplete or inconsistent. Files may be incorrect, outdated, or missing critical specifications. Production requirements may exist across multiple systems, spreadsheets, or email threads, requiring teams to manually gather information before work can even begin.

Every missing detail introduces another dependency. Before work can continue, someone has to answer a question, locate information, or approve a change. As packaging complexity grows, those interruptions become increasingly difficult to manage at scale.



Approvals & Version Control

Every approval introduces another dependency.

When approvals happen across disconnected email chains and fragmented review processes, work slows while teams wait for responses, confirm versions, or revisit work they believed was complete.

The problem becomes even more difficult when packaging updates occur across multiple SKUs, regions, or product variations simultaneously.

Production Preparation

Production shouldn't be the place where workflow issues are discovered.

When that happens, operators lose time verifying specifications, confirming file versions, or waiting for upstream questions to be resolved instead of running jobs.

At that point, every interruption has a direct impact on schedules, throughput, and customer commitments.

Reducing Dependencies Before Production

High-performing converters don't eliminate collaboration. They eliminate unnecessary waiting. They make the information every team needs available when they need it, so designers, customer service, prepress, and production spend less time waiting and more time moving work forward.

Connected workflows, centralized job information, and standardized processes allow teams to resolve issues earlier instead of discovering them just before production.

They don't replace people. But they do remove unnecessary dependencies that keep people from doing their best work.



Connected packaging workflows help teams identify problems earlier, maintain version control and keep production moving.

Less waiting.
Fewer handoffs.
More work moving forward.



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High-speed single pass inline RSR® Digital printer

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To significantly enhance the productivity of our customers box plant



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Kleen-Pak advances wet wipe packaging with UPM Raflatac RAFCARE PET label solution



Global demand for wet wipes continues to rise, and alongside this growth comes an increasing need for responsible packaging solutions. Kleen-Pak, a leading wet wipes manufacturer in Southeast Asia, has taken a step forward in environmental stewardship by transitioning from traditional plastic lids to UPM Raflatac's RAFCARE PET CLEAR TC 95 label solution.

Driving sustainability in everyday hygiene

Wet wipes provide essential convenience across baby care, personal hygiene, and household cleaning. Historically, the rigid plastic lids used for packaging have presented well-documented environmental challenges. Recognizing the urgency to align with global sustainability objectives, Kleen-Pak sought to innovate its packaging approach. Eliminating the rigid plastic lids in the new design significantly reduces the packaging's raw material footprint.

With the adoption of RAFCARE PET CLEAR TC 95, Kleen-Pak responds to rising market demand for label-based closure systems that minimize injection-molded plastic lids, thereby aligning with consumer preferences for reduced plastic usage and greater resource efficiency.

The solution: premium performance and efficiency

UPM Raflatac RAFCARE PET CLEAR TC 95 is a specialized labeling solution engineered for high-performance wet wipe applications. It combines:

- 1. Premium material:** A top-coated, clear PET 95 face material that provides excellent durability and a high-quality appearance.
- 2. Optimized adhesive:** The RRS4 adhesive technology offers versatile performance, including resistance to solutions containing up to 75% alcohol.

This innovative solution delivers several key benefits:

- **Long-lasting open-Close Functionality:** Designed for repeated use, the label maintains secure resealability throughout the product lifecycle.
- **High chemical resistance:** The solution offers robust performance, including proven resistance to formulations containing up to 75% alcohol.
- **Superior moisture retention:** The reliable seal minimizes the risk of liquid leakage, ensuring the wipes remain fresh and moist from first use to last.
- **Excellent printability:** The clear face material provides an optimal surface for high-quality graphics, helping brands achieve a premium, standout shelf presence.

"At Kleen-Pak, we recognize the critical role sustainability plays in shaping our operations. As a company committed to producing premium wet wipes, we focus not only on delivering top-quality products but also on reducing the packaging footprint of our products,"

said Mr. Tan Hock Kiam,
Managing Director of Kleen-Pak
Products Pte Ltd.



Mr. Tan Hock Kiam

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Efficiency meets sustainability

The switch to PET resealable labels has allowed Kleen-Pak to streamline manufacturing operations while concurrently reducing its carbon footprint. The automation of the labeling process minimizes manual handling, resulting in tangible savings in both time and labor costs.

Premium aesthetics and positive market feedback

The clear PET solution enhances the visual appeal and functionality of Kleen-Pak's packaging, supporting Kleen-Pak's standing as a premium brand dedicated to innovation and resource conscious.

Positive market feedback from both retailers and consumers underscores the increasing preference for label-based closure formats over rigid plastic lids. Looking ahead, Kleen-Pak plans to expand the application of RAFCARE PET CLEAR TC 95 across additional product lines, progressively transitioning from PP-based closures to this premium labeling solution.



About Kleen-Pak Products Pte Ltd

Founded in 2003, Kleen-Pak operates world-class wet wipes manufacturing facilities in Singapore and Vietnam, serving global markets with high-quality, sustainable hygiene solutions.



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Gen Z is embracing print in 2026.

What does this mean for print businesses?



Gen Z is embracing print in 2026. What does this mean for print businesses?

In a world dominated by reels and non-stop notifications, print has found its place in the digital era. What is driving Gen Zs - the first generation of digital natives - to embrace print?

In this article, we explore why Gen Zs like print, how brands are engaging Gen Zs with print and packaging, and what opportunities does this unlock for printing providers and commercial printers.

Why are Gen Zs embracing print?

Despite growing up with screens in their hands, Gen Zs are consuming print media by choice. Print delivers an experience that digital can't: one that feels immersive, unfiltered and distraction-free.

An authentic and aesthetic experience

Gen Z consumers in Asia Pacific (APAC) increasingly crave authenticity. Compared to curated Instagram feeds and algorithm-based content, thoughtfully designed magazines, booklets or packaging feel more genuine. High-quality print media is driven by storytelling and craft, enabling consumers to hold a tangible piece of creativity in their hands.

For this reason, Snail-mail subscription clubs are becoming increasingly popular among Gen Z audiences. A rising number of Gen Z creators have launched monthly mail services, where they design, print and send art, zines and written cards to thousands of subscribers. Each piece of mail is handmade and original, offering an aesthetic experience that feels personal in a way digital content rarely does.

Escape from digital distractions

Today's world is flooded with digital noise where content is measured in seconds, and social media trends come and go at lightning speed. As a result, more than half of consumers globally say they feel overwhelmed by technology and suffer from digital fatigue.

Despite being the first generation born into the digital age, Gen Zs are increasingly fatigued by ad-saturated digital spaces. Southeast Asian Gen Z consumers reported being over twice as likely (57%) to feel irritated when exposed to repetitive ads compared with other demographics.

Print offers an escape from this digital overload. Free from pop-up ads, notifications or distractions, Gen Zs are turning to print media to slow down, focus and engage deeply with meaningful content.

How are brands engaging Gen Zs with the power of print?

With print advertising winning over more consumers than digital, brands are getting creative with print media too. Smart businesses are using print to deliver eye-catching and authentic brand experiences that audiences will remember - not just scroll over.



Omnichannel marketing that drive customer loyalty

Print collectables like magazines can bring a brand's aesthetic and values to life. This invites readers to engage deeply with the content and view the brand as a trusted source of inspiration.

For example, Japanese clothing retailer UNIQLO popular with Gen Z shoppers launched its lifestyle magazine LifeWear in 2020, which is available for free in stores around the world. The magazine is not a product catalog. According to Michael Zakrzewski, head of communications, the magazine touches upon "the philosophy that Uniqlo creates, which is lifewear: not just clothing, but apparel that makes life easier for the everyday wearer." According to Uniqlo, the magazine is crucial in letting customers know what the brand stands for.

This is a strong example of how brands are taking an omnichannel approach to marketing to target a Gen Z audience. Uniqlo taps on TikTok trends for virality while using print to develop stronger emotional connections with customers and build long-term loyalty.

Print Marketing campaigns that spark Digital Engagement

Marketing materials with an interactive twist could be the answer to getting engagement from a Gen Z audience both online and off.

To promote its 2026 festival, Singapore Heritage Fest crafted special-edition marketing hangers inspired by its mascot, the migratory Pitta bird. Each hanger featured a pop-out illustration that can be assembled into a bird. Only 200 hangers were hung up on the handrails of Singapore's MRT trains, turning each piece into an exclusive collectible.

Furthermore, the campaign included a clever strategy to combine digital and print engagement. Consumers who posted their cardboard birds on Instagram and tagged @sgheritagefest could win a limited-edition enamel pin.

One Instagram post went viral with 42 million views and 1.9 million likes with the title "The Art of Noticing" of a young person assembling the bird from the hanger while commuting. This post embodies what Gen Z audiences are prioritising - IRL (In Real Life) experiences to blend in or balance their online lives.

Meaningful packaging that leaves a lasting impression



Beyond print media, printed packaging makes a powerful impact on the brand experience as well. When thoughtfully designed and beautifully printed, packaging can serve as a keepsake, ensuring that audiences remember the brand and associate it with positive memories.

When YouTrip, a multicurrency wallet available in APAC, was designing their YouTrip 2.0 experience, they redesigned their physical card to "a new and modernised look that accents a transparent window that symbolises the limitless possibilities YouTrip users can experience". They also redesigned the card packaging that has left a positive first impression on users. Right before they start using their card, they are already impressed with the company - that is the power of packaging.

How can commercial printers and print shops support these brands with an exceptional print experience?

Rather than going fully digital, more brands are looking to tap into the power of print. For commercial printers and print shops, this opens a clear opportunity to win business by delivering high-quality print capabilities.

These brands are not always printing at scale. Instead, they're producing smaller, more frequent runs for niche campaigns such as indie festivals, pop-up retail activations or limited-edition lookbooks. What they have in common is a strong focus on impact - they want print that feels premium, with vibrant colour, rich detail and finishes that stand out.

With the right technology in place, print shops can seize these growing opportunities and become trusted partners in delivering high-value, experience-led print.

Brands today are looking for short-run print that still feels premium - whether it's a lifestyle magazine or a marketing hanger. Our cutting-edge production presses are designed to help print providers meet these expectations.

The Revoria Press PC2120, for example, features a 6-colour print engine that delivers rich colour and brilliant metallic effects. With smart colour management, you can produce digitally printed proofs accurately and rapidly - at printing speeds of up to 120 pages per minute.

Stay on top of printing trends with FUJIFILM Business Innovation

To keep up with the changing demands on print, printers need to be versatile and reliable. The Revoria presses offer rich functionality and flexible solutions from paper-handling to advanced post-processing. These digital presses are designed to enable print businesses to seize new opportunities.

User Friendly Features - Real time correction can be performed during normal printing operations without needing high-level expertise or special skills.

Digital Printing - Ideal for short run, high-definition printing. Revoria digital presses supports lower setup cost, faster turnaround times and high customisation with Variable Data Printing. Unlike offset printing, digital machines allow for colour adjustment before printing. This speeds up proofing and minimises resource waste.

CMYK+ Specialty Toners - Let your creativity flow with a wider colour gamut and specialty toners that deliver metallic colours, vivid RGB and spot colours as well as textured prints.

As print finds its place with a new generation of consumers and brands, the right digital printing technology can help your business find new markets. With FUJIFILM Business Innovation's printers, you can take on more high-value jobs and meet shifting demands with speed, quality and efficiency.





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Trends and Disruptions in Digital Printing Packaging

How digital workflows, speed, sustainability and customisation are reshaping packaging.

Digital printing produces images directly from digital files using high-volume laser and inkjet systems. It has transformed packaging by reducing production time and costs while enhancing image quality, operational efficiency, and finishing capabilities. The technology supports short runs, rapid changeovers and personalised output—helping brands respond faster to market shifts and consumer needs.

Trends and Disruptions Impacting the Industry

The global digital printing in packaging market was valued at USD 25.5 billion in 2022 and is projected to reach USD 46.2 billion by 2029, growing at a CAGR of 8.92%.

Key drivers include:

- Rising disposable income and global GDP growth
- Continued growth of the packaging industry
- Wider acceptance due to cost efficiency
- Increasing demand for sustainable, innovative and variable-data printing



Packaging is a critical marketing tool. It protects the product, communicates the brand and influences purchase decisions at the point of sale. Digital printing enables faster turnaround, no plates, short- to medium-run production, consistent image quality and broad substrate compatibility—helping brands create impactful, shelf-ready packaging with greater agility.

Rapid Prototyping and Faster Time to Market

Designs can be modified quickly to incorporate new information, seasonal promotions or limited-edition artwork. This shortens development cycles, reduces time to market and helps brands stay relevant in fast-moving retail and e-commerce channels.

Sustainability

On-demand digital production reduces waste by printing only what is needed, when it is needed. It minimises overproduction, optimises inventory and enables better use of eco-friendly materials—supporting corporate sustainability goals and consumer demand for greener packaging.

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Challenges

Despite its advantages, digital printing has limitations. Some packaging materials, including certain plastics and metallic substrates, require specialised treatment or alternative printing methods such as offset, flexography, gravure, or screen printing.

Another challenge is the volatility of raw material costs. Since inks rely heavily on petroleum-based pigments and resins, fluctuations in crude oil prices directly affect production costs, making pricing and planning more difficult for manufacturers.

Emerging Market Opportunities

Developing markets including India, China, Brazil, and South Africa continue to present significant opportunities due to rising incomes, industrialisation, expanding food, pharmaceutical, and consumer goods sectors, and increasing demand for convenience packaging.

For example, India's pharmaceutical industry is expected to grow from USD 50 billion in 2022 to USD 130 billion by 2030, creating substantial opportunities for digital packaging solutions. Global suppliers are already expanding through partnerships and investments to strengthen their presence in these markets.

Digital printing also provides growth opportunities in niche sectors including cosmetics, food and beverage, healthcare, and premium consumer products, where short runs, product variation, and personalised packaging add significant value.

Regulatory Compliance

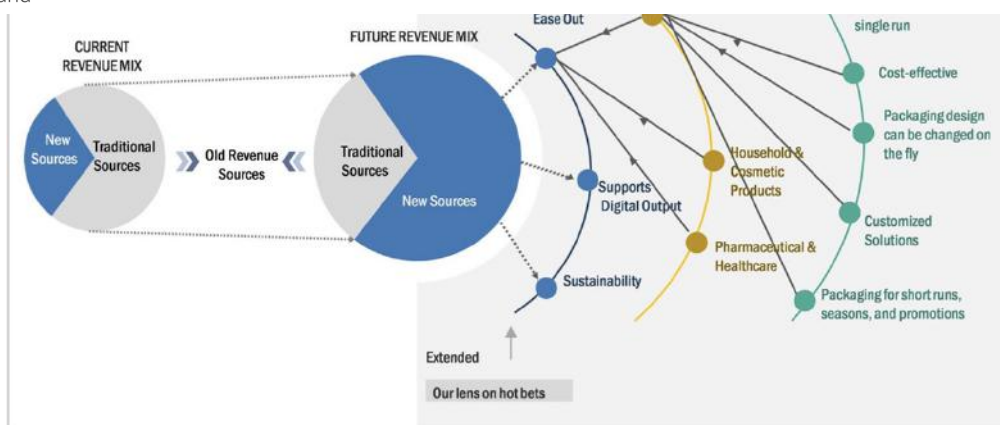
Packaging manufacturers must comply with increasingly stringent regulations covering food safety, product labelling, and environmental sustainability. Compliance with standards governing food-contact materials, packaging waste, and printing inks is essential to reduce legal risk, maintain consumer confidence, and protect brand reputation. However, meeting these requirements adds complexity and cost to production.

The Future of Digital Printing Packaging

Digital printing continues to reshape the packaging industry by delivering flexibility, speed, and cost efficiency. Without the need for printing plates, packaging designs can be updated in minutes rather than days, allowing manufacturers to respond immediately to ingredient changes, new certifications, branding updates, or promotional campaigns.

The technology is particularly valuable for food and beverage, pharmaceutical, healthcare, household, and cosmetic products, where companies increasingly require short runs, seasonal packaging, market testing, and personalised solutions.

As demand grows for faster production, sustainability, and customised packaging, digital printing will continue to play an increasingly important role alongside conventional printing technologies.



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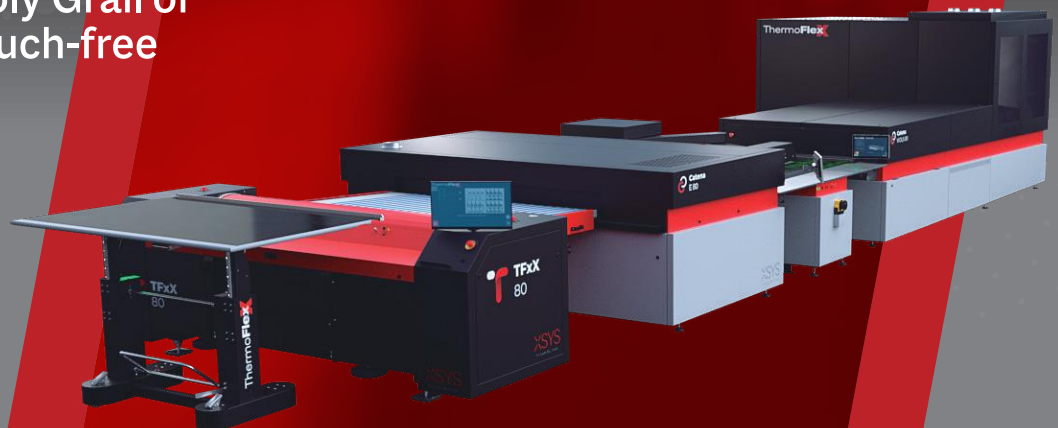
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