

市場研究調査

Main Source: Persistence Market Research



Kuen Yuh Machinery Engineering Co., Ltd

A Human Driven Company

Agenda

- **Overview**
- **Market Research – Industry trend**
- **Market Research – Customer pain point**
- **Market Research – Product Trend**
- **Marketing and branding strategies**

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- Marketing and branding strategies

This Report is broken down into industry trend, customer pain point and product trend

Market Research – Industry trend

- Overall Growth – opportunities in USA and APECJ
- Increase environmental awareness
- Continuation of M&A
- Tier 2, tier 3 printers taking on increasingly short run jobs
- Growth in automation need due to short run jobs a lack of skilled labor

Market Research – Customer pain point

- Lack of skilled labor and worker / High waste due to improper skills
- High cost of anilox, printing sleeves, and high investment cost of press
- Immaturity of the flexographic ecosystem
- Insufficient sales order

Market Research – Product Trend

- High potential for In-line and Stack at the mid to lower end market
- Lowering price to capture market share
- Higher number of color demand for high end CI press

Agenda

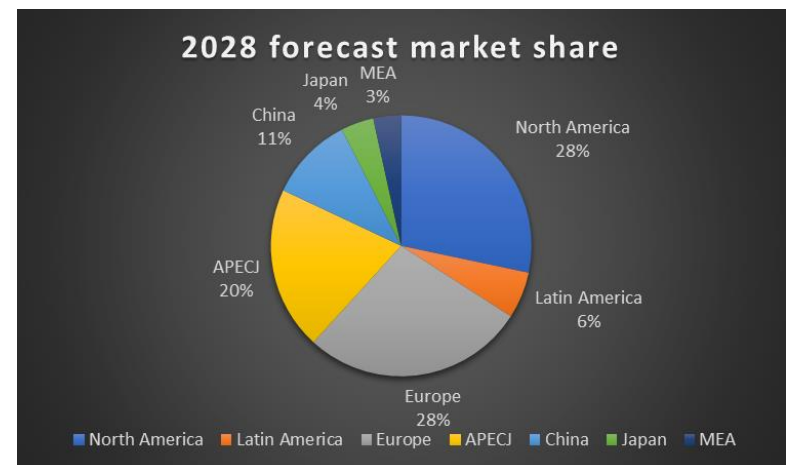
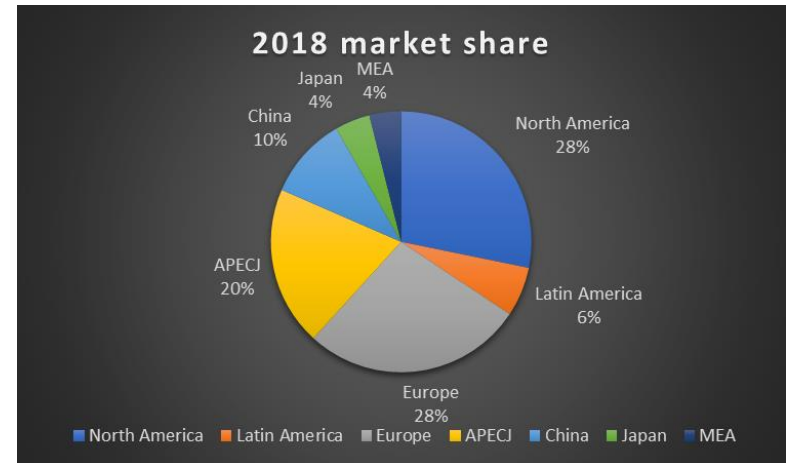
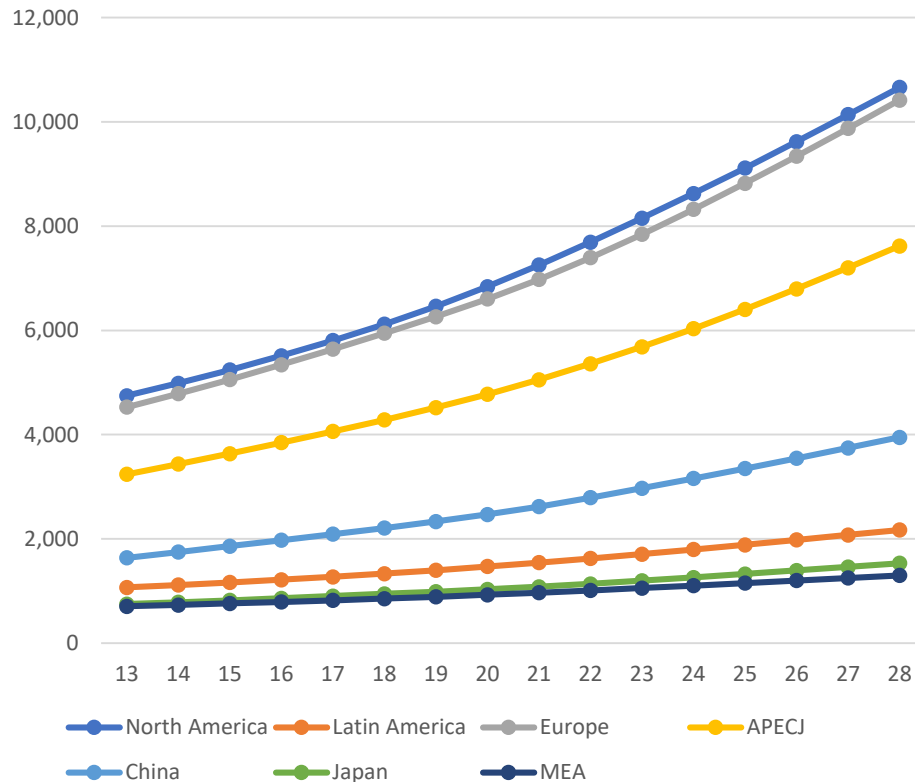
- Overview
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Global packaging demand growth due to growth in the economy and population

The forecasted demand for Flexographic press will increase globally

- Greatest potential in Europe, North America and APECJ
- Market share ratio remain fairly constant over 2018 ~ 2028

Market Value Growth (2013~2028)



Global packaging demand growth due to growth in the economy and population...continue

- APECJ opportunities lies in India, Indonesia, Vietnam, Malaysia
- China is an opportunity in the Asia Region

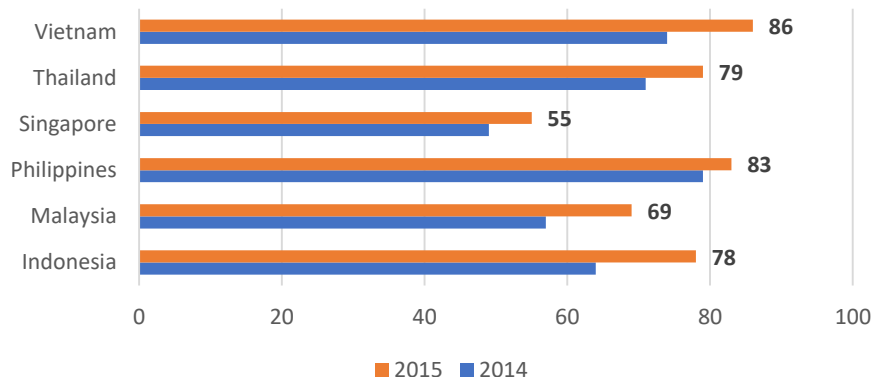
The Packaging sector has grown faster in recent times, driven by adoption of automation solutions to fasten the packaging process. Growing demand for packaging products and options from developing countries, such as India, China, Brazil, Turkey, South Africa, Indonesia, Vietnam and Malaysia, has become a driving force for the adoption of flexographic printing machines among end-use industries

The long-term growth of the market is pegged to be driven by socio-economic trends, such as rapid population growth and rise of the affluent middle-class in emerging markets of India, Brazil and China. Steady economic growth in developing countries, such as China, India, Brazil and ASEAN countries, and rising per capita disposable income and expenditure in these regions are the major factors expected to drive the sales of packaged and labelled consumer products, which in turn, will drive the flexographic printing machine market. Thus, rising disposable income in developing regions is set to drive the Castor oil market over the forecast period

Increase in environmental concerns starting from the brand level. This is true in developed countries and starting to show in emerging regions

- P&G : Reduce packaging by 20% per consumer use in 2023
- P&G: 90% of our packaging will be recyclable or reusable in 2023
- Unilever: Reusable, recyclable or compostable plastic packaging
- Unilever: By 2020 total waste sent for disposal will be at or below 2008 levels despite significantly higher volumes
- The Coca Cola Company: replacing up to 30% of the petroleum used to make PET plastic bottles with material from sugar cane and other plant matter
- The Coca Cola Company: investing in technology to use more recycled material in its packaging; and making its plastic packages lighter and easier to recycle

% Response willing to pay extra for positive social impact products



Willing to pay extra for products and services that come from companies who are committed to positive social and environmental impact

The 2015 Nielsen Global Corporate Sustainability Report shows eight in 10 consumers in Southeast Asia (80%) prefer to buy socially responsible brands, compared to Asia Pacific (76%), Middle East/Africa (75%) and Latin America (71%), Europe (51%), and North America (44%).

The Nielsen Global Survey of Corporate Social Responsibility and Sustainability was conducted between Feb. 23-March 13, 2015, and polled more than 30,000 consumers in 60 countries throughout Asia-Pacific, Europe, Latin America, the Middle East, Africa, and North America.

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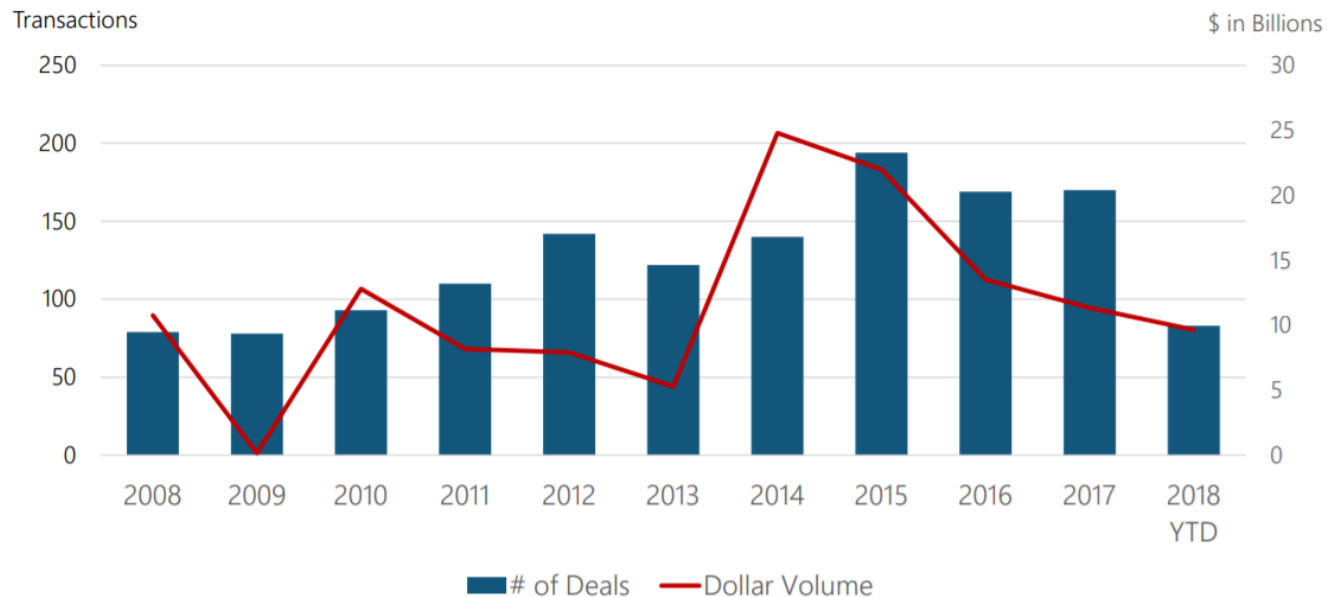
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<https://www.unilever.com/sustainable-living/>
<https://www.coca-colacompany.com/stories/coca-cola-expands-access-to-plantbottle-ip->
<https://www.marketing-interactive.com/75-consumers-asia-pacific-pay-brands-care/>

M&A are continuing to happen. Companies are getting bigger, to Integrate vertically and horizontally to enjoy the benefit of economy of scale.

- M&A trends are continuing to happen, although not at an increasing rate

II. Mergers & Acquisitions Activity

Disclosed Transaction Volumes – All Packaging 2008 to 2018



Source: Cap IQ, Mazzone & Associates
Data as of October 1, 2018

Source:

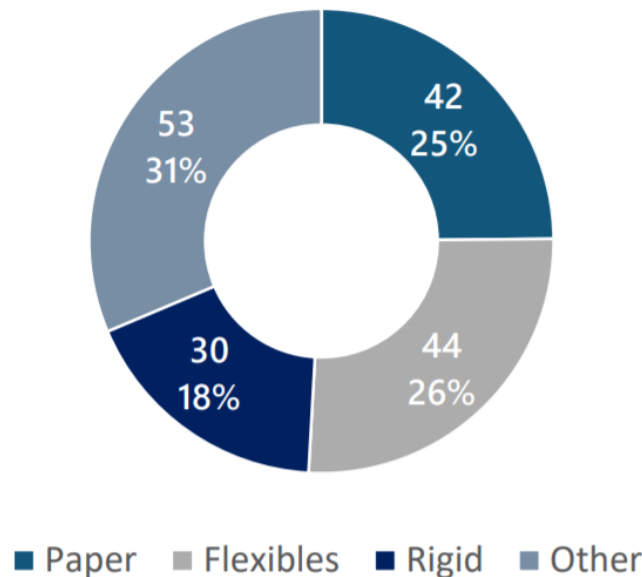
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M&A are continuing to happen. Companies are getting bigger, to Integrate vertically and horizontally to enjoy the benefit of economy of scale...continue

- M&A happening most in the flexible sector followed by paper, then rigid packaging

II. Mergers & Acquisitions Activity

Packaging Transaction Volumes, YTD 2018
Total Number of Transactions = 169



Source: Mazzone & Associates Research

Source:

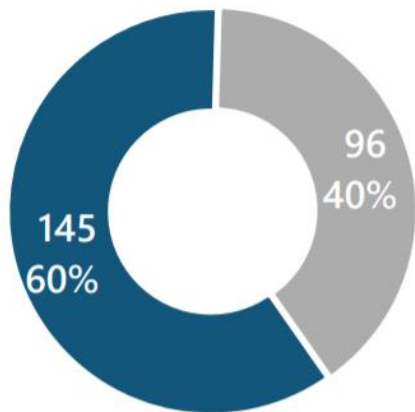
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M&A are continuing to happen. Companies are getting bigger, to Integrate vertically and horizontally to enjoy the benefit of economy of scale...continue

- Big portion of the M&A activities are happening as financial buyout

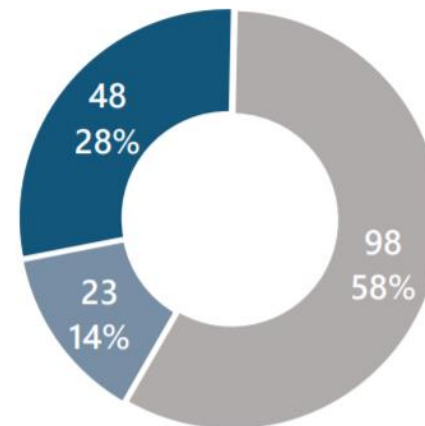
II. Mergers & Acquisitions Activity

Total Deal Volume by Buyer Type, 2017



■ Financial ■ Strategic

Total Deal Volume by Buyer Type, YTD 2018



■ Financial Buyout ■ Financial Add-on ■ Strategic

Source: Mazzone & Associates Research

Source:

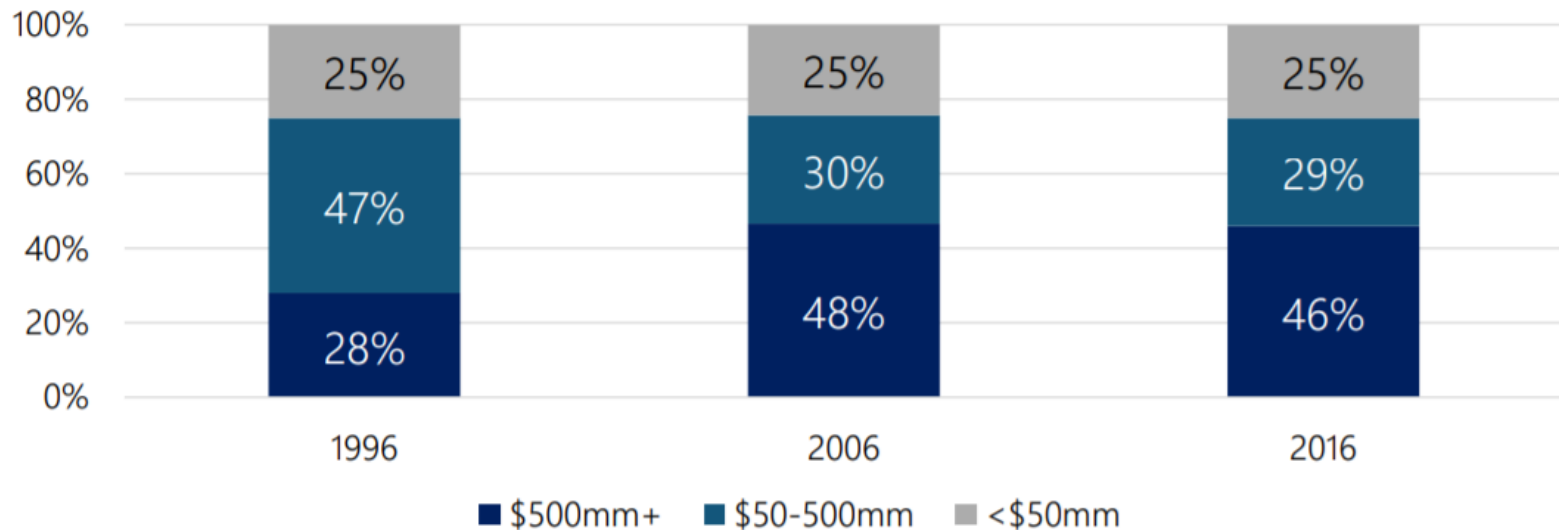
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M&A are continuing to happen. Companies are getting bigger, to Integrate vertically and horizontally to enjoy the benefit of economy of scale...continue

- As the portion of small size packaging company remains fairly constant on the market, large size packaging company has increased dramatically and mid size packaging company has fallen significantly over the years

II. Mergers & Acquisitions Activity

North American Flexible Packaging Industry by Company Size

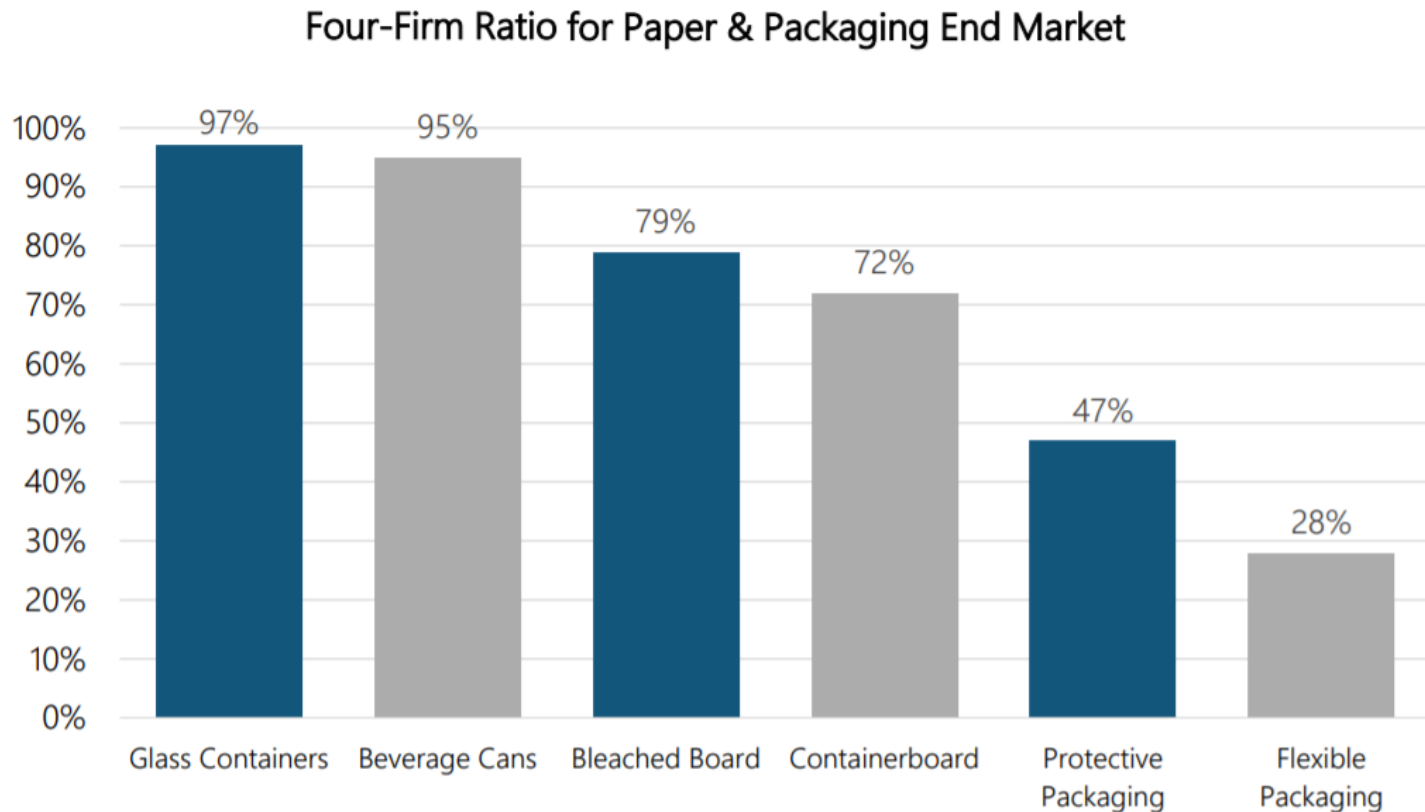


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M&A are continuing to happen. Companies are getting bigger, to Integrate vertically and horizontally to enjoy the benefit of economy of scale...continue

- Flexible packaging competition remains most diversified when compared to other packaging sector



Source: Citi GPS

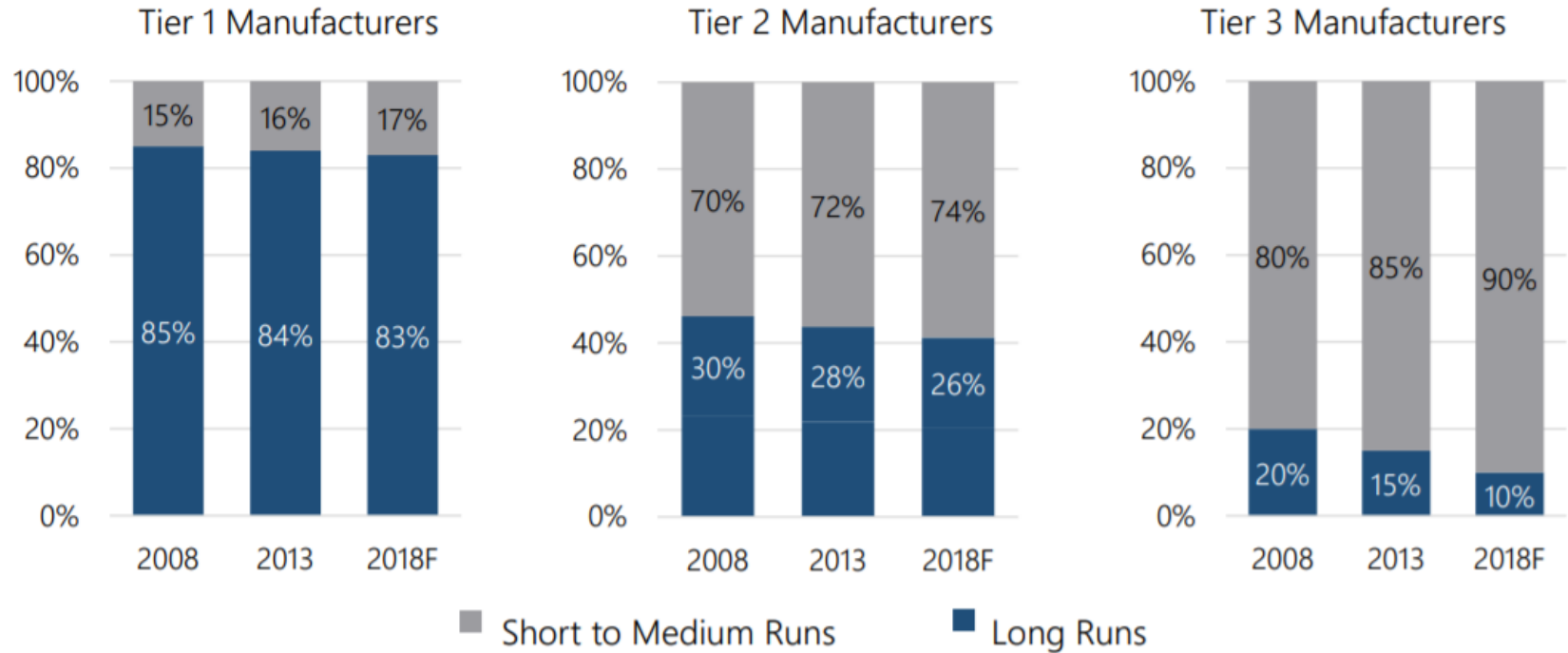
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Shorter runs print job, increase in designs, decrease in product life cycle

- Tier 1 printing & packaging companies continue to take on long running jobs over the years
- Tier 2 & Tier 3 companies are taking on more and more short to medium run jobs

US Plastic Packaging for F&B products by Run Size (2008-18F)



Source:

https://www.aimcal.org/uploads/4/6/6/9/46695933/white_presentation.pdf

Shorter runs print job, increase in designs, decrease in product life cycle...continue

- Tier 1 printing & packaging companies continue to take on long running jobs over the years
- Tier 2 & Tier 3 companies are taking on more and more short to medium run jobs

Ordering fewer labels to match product demand is more cost effective for the brand owner, as basic business principles teach us that holding excess inventory is an additional risk.

Demand is growing for shorter lead times and for a commitment to next-day and increasingly, where feasible, same-day delivery services. This means packaging must be available immediately and in the best possible corrugated format

Source:

<http://blog.markandy.com/short-run-demand>

<https://www.smitherspira.com/resources/2018/june/6-flexographic-printing-trends>

<https://www.smitherspira.com/resources/2019/february/disrupting-the-paper-and-board-market-2018-to-2028>

Growth in automation need due to short run jobs and lack of skilled labor

- As competition increase, the need for shorter lead time increase, therefore more demand for automation to shorten the lead time
- As the number of skilled labor decrease, and as the number of short run job increases, the need for automation increase

“customers are complaining that they cant get key staff qualified or trainees”

“I see the Auto Flexo Printing Machine Manufacturers market as the most stable option for the 10 years ahead! I think it should remain a known quantity of the current Manufacturers globally! “

John Kortegast

“We are taking on more shorter run jobs. In some case we go to narrow web machines to fulfill these orders rather than wide web machines”

Douglas Becker, AWT

Source: John Kortegast ; AWT

Growth in automation need due to short run jobs and lack of skilled labor...continue

Fig 12: Global Flexographic Printing Machine Market Value BPS Analysis by Technology – 2013, 2018 & 2028

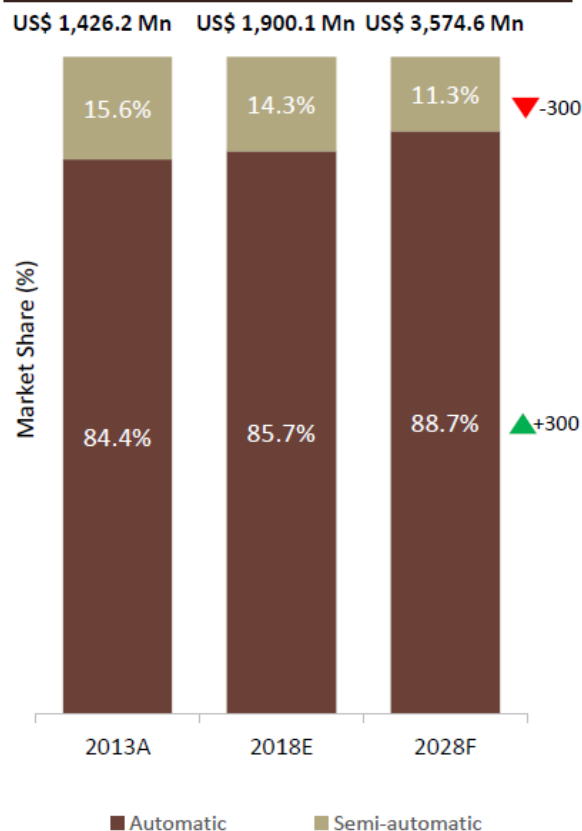


Fig 13: Global Flexographic Printing Machine Market Y-o-Y Growth (%) by Technology, 2017 – 2028

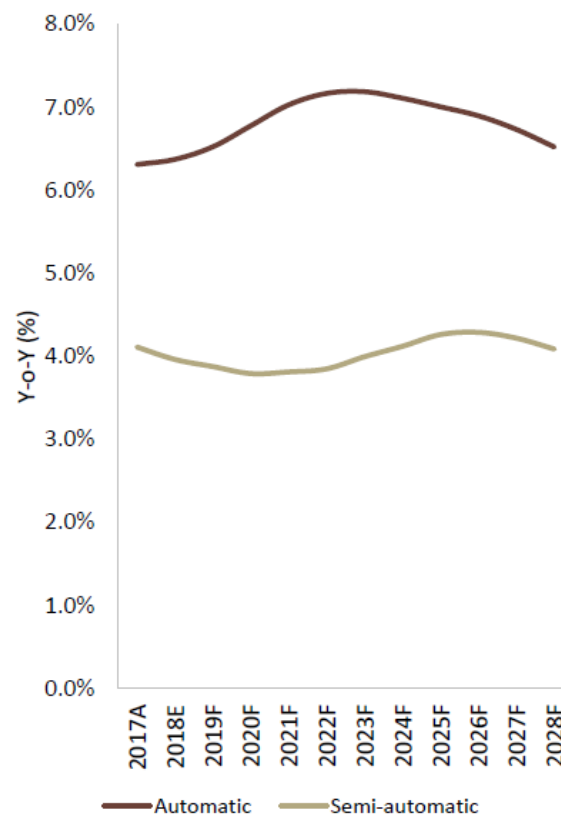
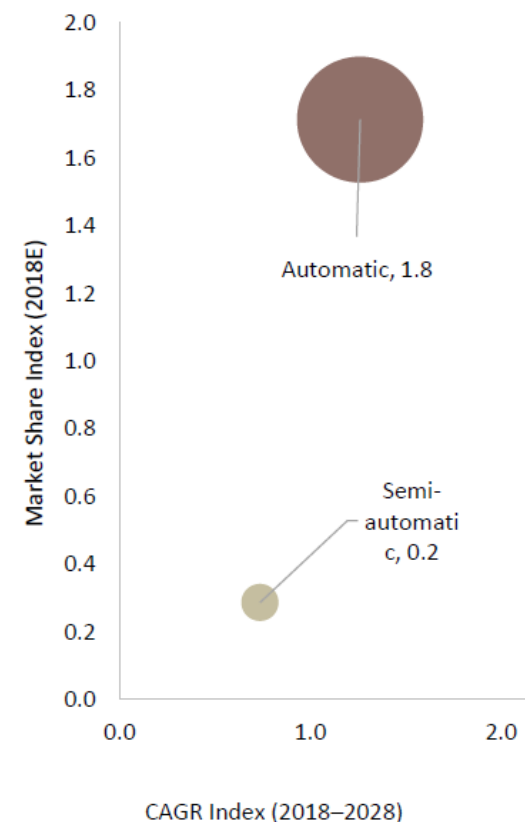


Fig 14: Global Market Attractiveness Analysis by Technology, 2018-2028



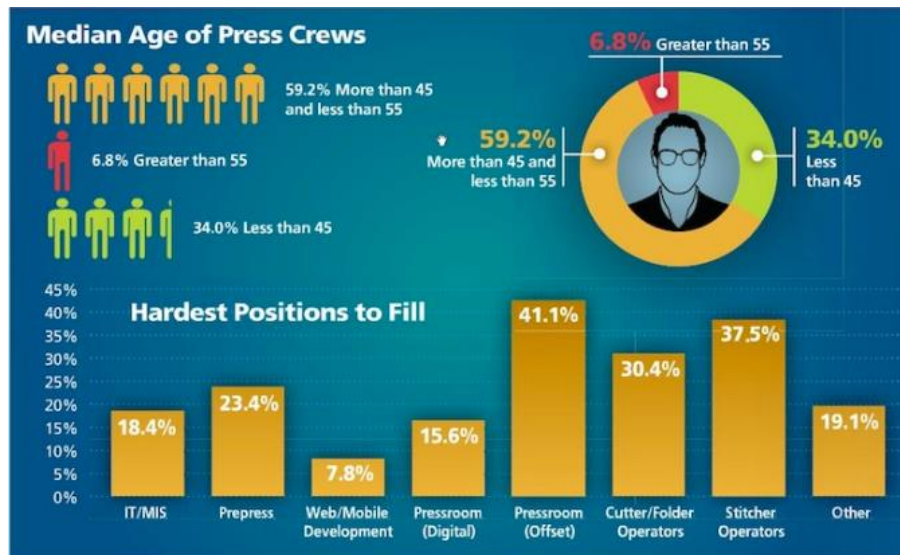
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Lack of skilled labor and worker / High waste due to improper skills

If you were to walk into the production areas of several printers anywhere in North America, you would undoubtedly observe something they all have in common. No, it's not the equipment. Nor is it the facility design. It's the average age of their employees. Look at the press operators. The skilled bindery technicians and, yes, even the prepress techs. Odds are you won't see many people under 30, or for that matter under 45.

Study conducted by several Printing Industries of America (PIA) Affiliates asked the question: What percentage of your skilled workforce (Production Personnel) do you estimate will retire in the next 5 to 10 years? More than 50 percent of the respondents indicated that a significant amount (30-50 percent) of their workforce would retire in that period. The same survey showed that the median age in the offset pressroom was over 45 in nearly two-thirds of the companies surveyed.



Source: Industry Survey Conducted by PIA Affiliates, 2014

- <https://www.piworld.com/article/finding-skilled-workers-changing-workforce/>
- <https://digitalprinting.blogs.xerox.com/2017/07/10/a-s-print-industry-faces-skills-shortage-student-competition-closes-gap/>

High cost of anilox, printing sleeves, and high investment cost of press

- Increase demand in used machines
- High cost of plates

Small and medium scale packaging and labelling companies in developing economies prefer used flexographic printing machines as buying new flexographic printing machines is not lucrative for these businesses. This demand for used flexographic printing machines has negatively impacted the growth in demand for new flexographic printing machines. Flexographic printing machines that come with the buy back option have negatively impacted the sales of new flexographic printing machines in both developing and developed economies. During the first half of the forecast period, key players in the U.S., Europe, China and India, will register moderate growth in sales. However, second-hand sales and services business will boom during the forecast period

Flexographic printing involves high initial setup costs, depending upon the customization required, i.e. based on the width, color capacity or no. of units, and automation. This increases the initial setup of the total printing equipment, depending upon the end-use requirement. The machine also offers lower printing quality than lithographic printing and has trouble with printing smooth color gradients. Moreover, it is difficult for flexographic printing to inherently print both process tones and solids within same image carrier. The scale in the plate alone costs up to five times considering the rubber plate to high-end photo polymer. These factors are expected to restrict the adoption of flexographic printing machines and drive the preference of alternatives.

Immaturity of the flexographic ecosystem such as complimentary equipment (ink, plate) in the developing regions

- DIC ink supplier from different regions supply ink at various quality
- Lack of plate choices and plate making skills in the developing regions

Tight supply availability for titanium dioxide (TiO₂) due to a force majeure has had an impact on the price and supply ability of white ink,” said Iwata. “Photoinitiators for UV inks are also in tight supply. There is also a general trend of raw material price increases, which has, in turn, led to ink price increases.

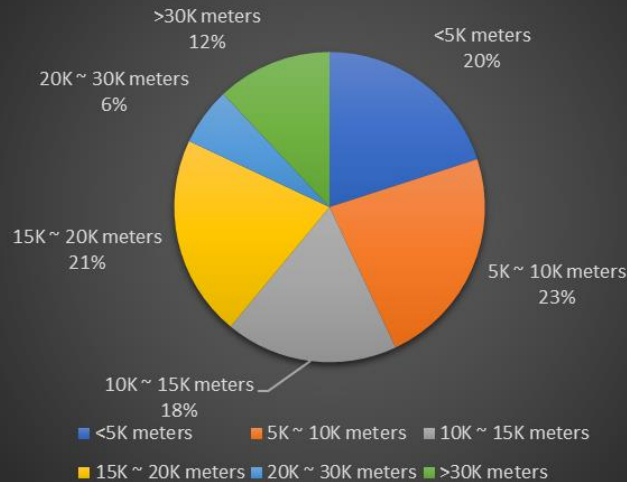
In the Asia Pacific region because there was less awareness in the environmental concerns, and the flexographic supply chain is less integrated and mature. As result leading to slower development of the flexo process in the region.

Source:

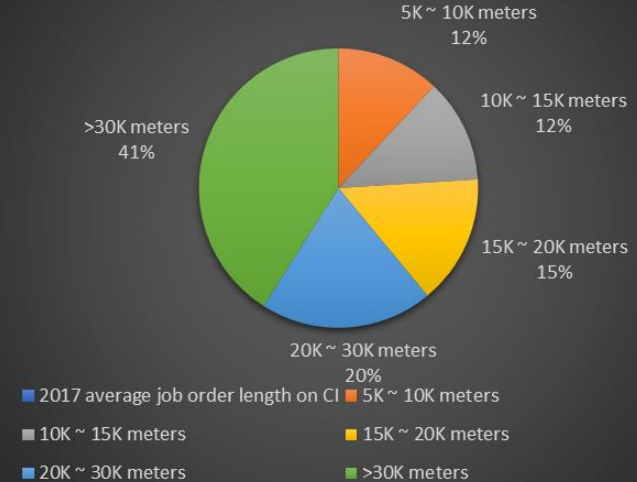
- KYMC
- CI Flexo Tech
- https://www.inkworldmagazine.com/contents/view_online-exclusives/2018-08-24/raw-materials-are-impacting-asia-pacific-ink-manufacturers/64942

Insufficient sales order in China, 62% claim that their CI are not fully occupied

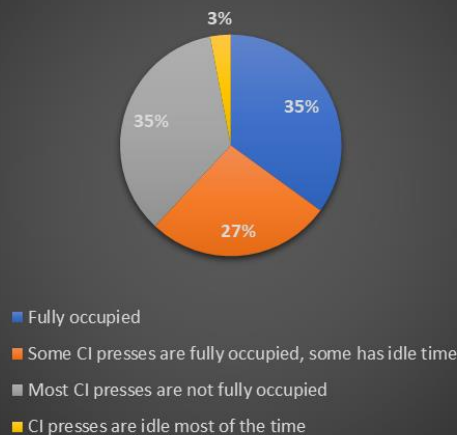
2017 daily production on CI



2017 average job order length on CI



CI machine in production



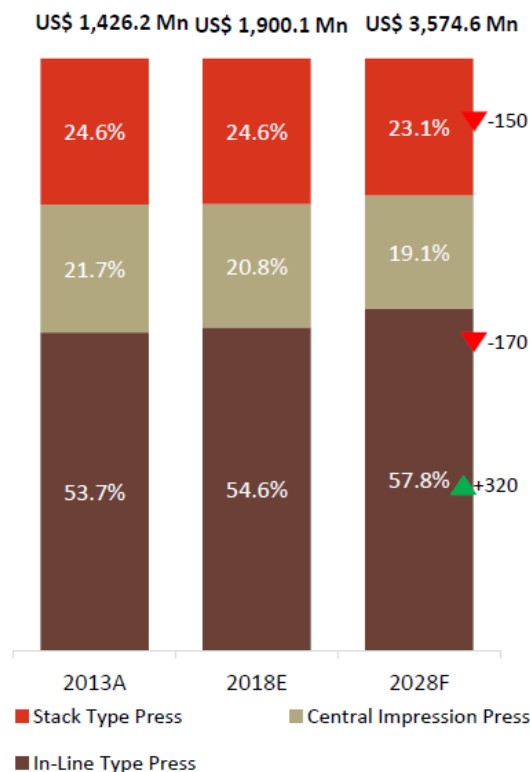
- **82%** of the total daily production on CI is less than 20k meters
- If we take 20k meters as an example for our total daily production, when running the press at 300m/min, the job orders would be completed in around 1.1 hours (running nonstop). When the press runs at 200m/min, the job orders would be completed in around 1.6 hours (running nonstop).
- **61%** of time CI are used to run orders greater than 20k meters. This clearly shows that CI press is the preferred method in running long length jobs. However, as the total daily production length of CI over 20k meters accounts for only 18 % of the time.
- 62 % of the factory claim that their CI are not fully occupied

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High potential for In-line and Stack at the mid to lower end market across all regions

Fig 06: Global Flexographic Printing Machine Market Value BPS Analysis by Product Type – 2013, 2018 & 2028



Source: PMR Analysis

Note: The Sum may not be equal to 100% due to rounding off

Fig 07: Global Flexographic Printing Machine Market Y-o-Y Growth (%) by Product Type, 2017 – 2028

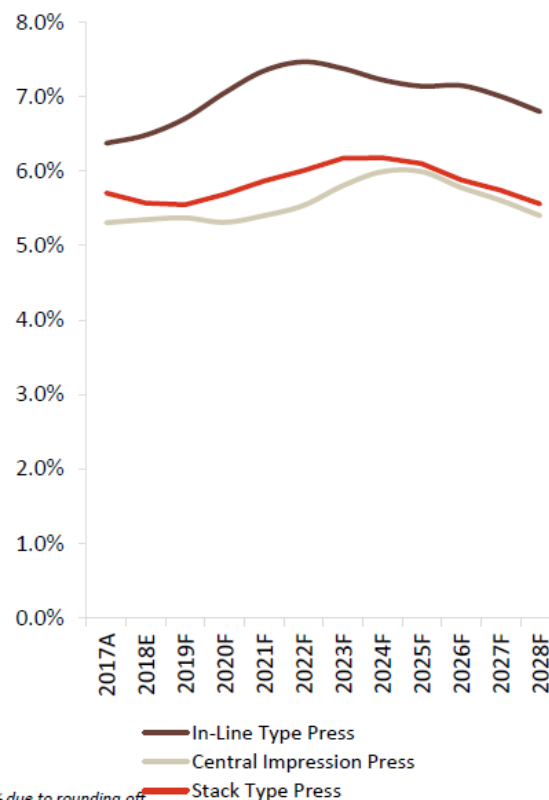
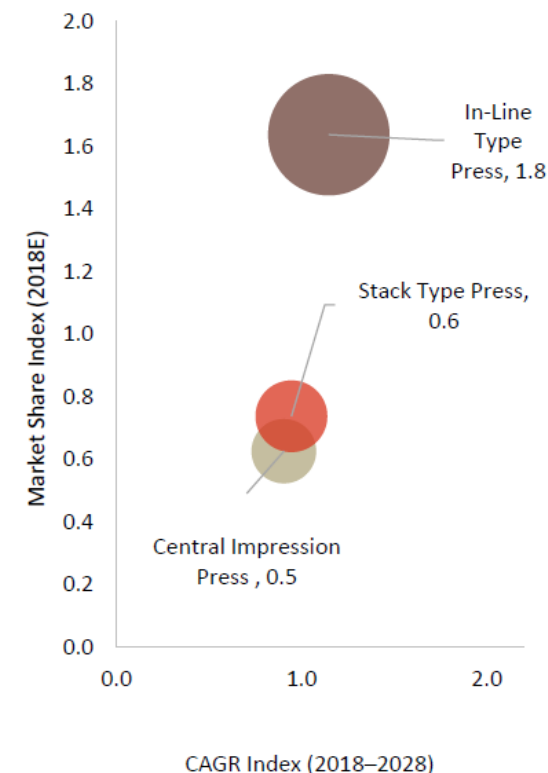


Fig 08: Global Market Attractiveness Analysis by Product Type, 2018-2028



High potential for In-line and Stack at the mid to lower end market across all regions...continue

Product Type		2013A	2014A	2015A	2016A	2017A	2018E	2019F	2020F	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	CAGR (2018–2028)
In-line Type Press	Vol.	8,847	9,350	9,887	10,458	11,059	11,696	12,389	13,160	14,017	14,949	15,927	16,938	17,996	19,119	20,279	21,466	6.3%
	Val.	765.2	811.8	861.8	915.9	974.2	1,037.4	1,107.0	1,185.0	1,272.0	1,367.0	1,467.8	1,573.8	1,686.2	1,806.7	1,933.2	2,064.6	7.1%
Central Impressi on Press	Vol.	3,647	3,807	3,974	4,156	4,352	4,555	4,766	4,981	5,210	5,458	5,731	6,027	6,336	6,647	6,959	7,272	4.8%
	Val.	309.6	324.2	339.8	356.9	375.8	395.9	417.2	439.3	463.1	488.7	517.1	548.0	580.9	614.4	648.9	683.9	5.6%
Stack Type Press	Vol.	4,187	4,431	4,679	4,930	5,184	5,438	5,700	5,979	6,280	6,608	6,963	7,338	7,727	8,119	8,518	8,919	5.1%
	Val.	351.4	373.0	395.3	418.3	442.2	466.8	492.7	520.7	551.3	584.4	620.4	658.8	699.0	740.1	782.6	826.1	5.9%
Total	Vol.	16,682	17,588	18,541	19,545	20,594	21,690	22,854	24,119	25,507	27,015	28,621	30,304	32,060	33,885	35,755	37,656	5.7%
	Val.	1,426.2	1,509.0	1,597.0	1,691.1	1,792.2	1,900.1	2,016.8	2,145.1	2,286.4	2,440.1	2,605.3	2,780.7	2,966.0	3,161.2	3,364.7	3,574.6	6.5%

High potential for In-line and Stack at the mid to lower end market across all regions...continue

Product Type		2013A	2014A	2015A	2016A	2017A	2018E	2019F	2020F	2021F	2022F	2023F	2024F	2025F	2026F	2027F	2028F	CAGR (2018–2028)
In-line Type Press	Vol.	8,847	9,350	9,887	10,458	11,059	11,696	12,389	13,160	14,017	14,949	15,927	16,938	17,996	19,119	20,279	21,466	6.3%
	Val.	765.2	811.8	861.8	915.9	974.2	1,037.4	1,107.0	1,185.0	1,272.0	1,367.0	1,467.8	1,573.8	1,686.2	1,806.7	1,933.2	2,064.6	7.1%
Central Impression Press	Vol.	3,647	3,807	3,974	4,156	4,352	4,555	4,766	4,981	5,210	5,458	5,731	6,027	6,336	6,647	6,959	7,272	4.8%
	Val.	309.6	324.2	339.8	356.9	375.8	395.9	417.2	439.3	463.1	488.7	517.1	548.0	580.9	614.4	648.9	683.9	5.6%
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Total	Vol.	16,682	17,588	18,541	19,545	20,594	21,690	22,854	24,119	25,507	27,015	28,621	30,304	32,060	33,885	35,755	37,656	5.7%
	Val.	1,426.2	1,509.0	1,597.0	1,691.1	1,792.2	1,900.1	2,016.8	2,145.1	2,286.4	2,440.1	2,605.3	2,780.7	2,966.0	3,161.2	3,364.7	3,574.6	6.5%

High potential for In-line and Stack at the mid to lower end market across all regions...continue

"I have had quite a good look at this now and I see what you mean about In line Flexo presses being at the top of the CAGR; My thoughts are that it kind of makes sense. Many jobs regardless of the substrate could be printed inline during the film making process or inline during the huge number conversion processes. I think this is an efficiency gain less handling especially on long run jobs without complicated printing designs and multiple print colors."

John Kortegast

"Stack type Flexo presses also have a high CAGR; I think this also could turn out to be correct! The modern stack press with technology added is far superior to the machines built 10 years ago. These new higher technology machines coupled with the simple and the old style manual machines gives Packaging etc manufacturers in the developing countries and markets a cheaper option to produce a reasonable cost effective quality product for the customer . The Problem I see for KYMC in this market is the more low end basic machines can and are being produced very cheap by a huge number of low end Packaging machinery manufacturers. Having said this quality machines in this market will remain in demand."

John Kortegast

Lowering price to capture market share

Flexographic printing machine manufacturers are estimated to have lower bargaining power at the end of the forecast period due to intrusion of Asian manufacturers in the western countries.

Rising competition among the suppliers for the acquisition of big orders have driven the buyers power.

Prominent owners of packaging and labelling companies can exercise bargaining power but it is currently at the moderate side.

"I see the Auto Flexo Printing Machine Manufacturers market as the most stable option for the 10 years ahead! I think it should remain a known quantity of the current Manufacturers globally! I think that it will stay out of reach of the low end Flexo machine manufactures. A problem that I see is some of the current Auto Flexo Press Manufacturers will standardize machines and out source the majority of the manufacturing work for their machines to cheaper manufacturers around the world, to produce machines more cheaper to grab increased market share."

John Kortegast

Source:

- **Persistence Market Research**
- **John Kortegast**

Higher number of color demand for high end CI press

Fig 23: Global Market Value Share and BPS Analysis by Coloring Capacity– 2013, 2018 & 2028

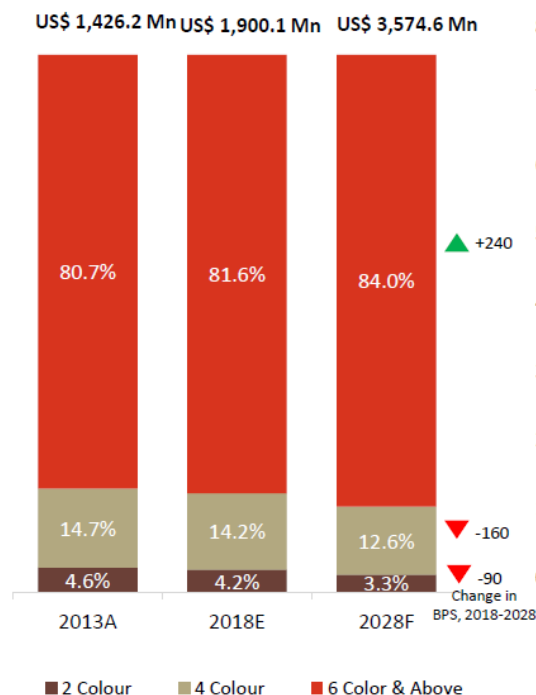


Fig 24: Global Market Value Y-o-Y (%) Growth Projections by Coloring Capacity, 2017-2028

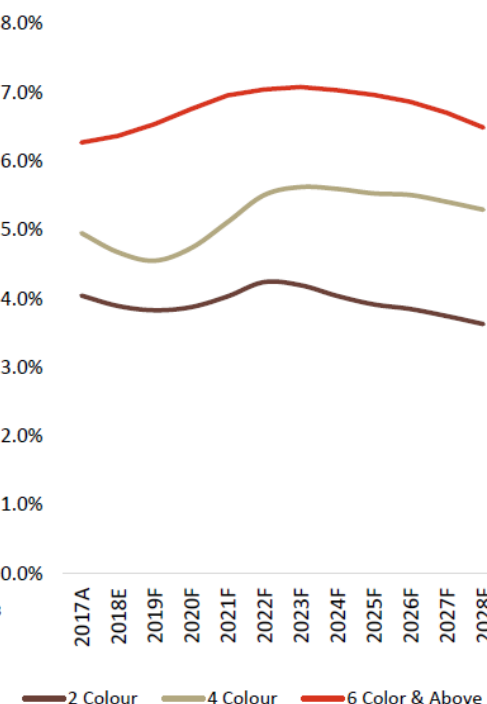
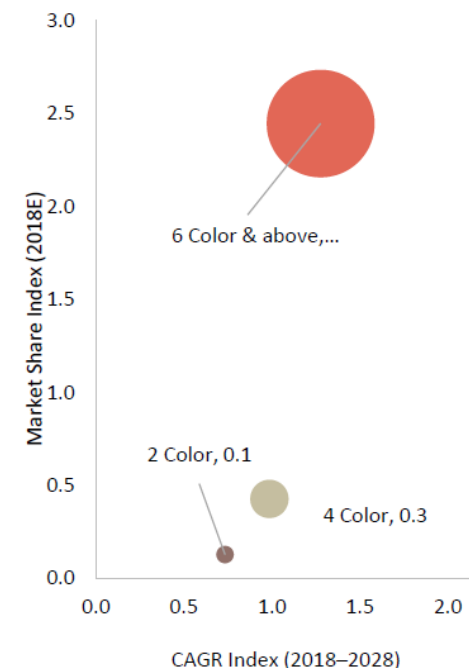


Fig 25: Global Market Attractiveness Analysis by Coloring Capacity, 2018-2028



“Brand differentiation among the Dairy sector led to the development of Multi-Color (6-7) Color Printed LDPE pouches which made it necessary to be printed by the C.I Flexo Process.”

KYMC India

Source:

- Persistence Market Research
- KYMC India

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Questions to think about for KYMC marketing and branding strategies

Industry Trend

- **Region-** Will we have a main target region? Will our long term target region be the same as our short term target region ? What advantage do we have in these regions? How do we create advantage in these regions? What image do we want to create in these regions?
- **Environmental Awareness-** Do we want to shape KYMC into a environmental friendly brand? Will this be one of our main marketing message? How can we shape ourselves into a environmental friendly brand?
- **M&A-** This trend will generate more large size companies do we want to capture these customers? How do we meet their needs to capture this part of the market? How about the small size companies? Our they our target audience?
- **Short run jobs –** these jobs are becoming more prevalent for tier 2 and tier 3 printers? How can our R&D match these requirement?

Strategy

- **Talent pool-** Do we want to help solve this issue for our customers? How can we help solve this issue?
- **High cost-** How do we make this easier for our customers? Is there something that we can get creative with our business model?
- **Immaturity of ecosystem-** Do we want to help solve this issue for our customers? How can we help solve this issue?
- **Insufficient sales order-** To think about the trends of shorter run jobs and the need for wide of solutions. To rethink about the competition from narrow web, mid web and digital printing

Product

- **In line / Stack-** Do what to capture this market? How about focus and resource do we want to put into this sector?
- **Lower price-** How do we lower our production cost in the long run to remain competitive on the market? What is our position on the market when it comes to price.
- **Higher number of color demand-** Will our R&D be able to develop products that can provide us an advantage over 8 color presses?

END