

# Digital Flexible Package Printing: Slow Progress

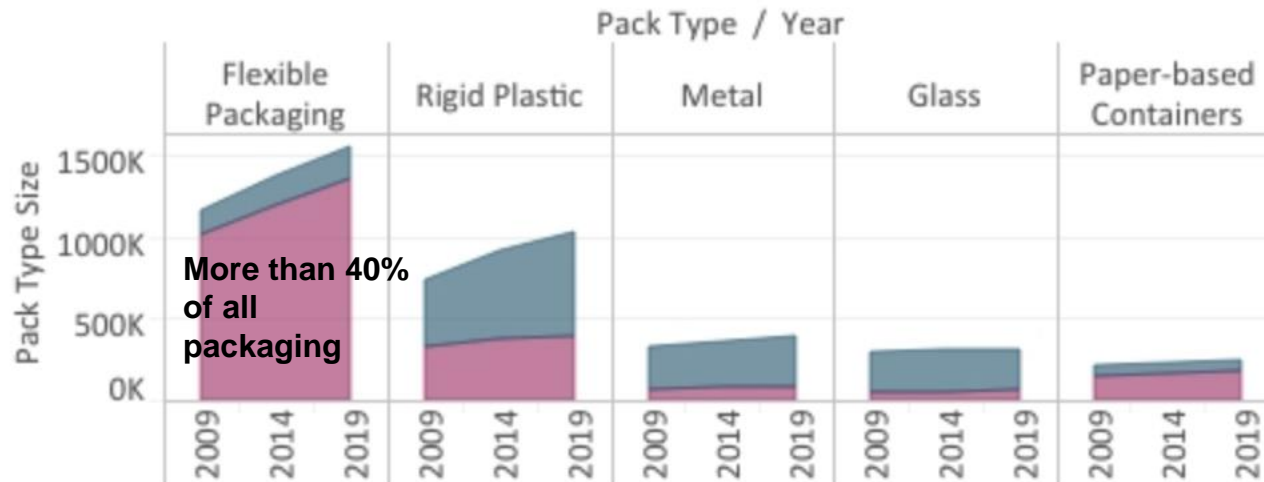


November 2022

Digital Packaging Summit  
An IT Strategies Perspective

# Flexible Packaging is here to stay

Global market size for top 5 pack types in fmcg industries 2009-2019  
Retail/off trade unit volume (million)



Source: Euromonitor International

According to Euromonitor International, [flexible packaging](#) accounted for 41% of total packaging globally in 2019, and 75% of this was made up of flexible plastic. The next two largest formats are flexible paper (6%) used primarily for gum and confectionery and flexible aluminium/plastic (5%) for coffee packaging. Though the top-three formats will experience growth in the coming years, flexible packaging is expected to grow ahead of all other formats.

# The environmental case for flexible packaging

**Case Story Example of Many Sustainability Benefits of Non-Carbonated Beverage Packaging**

Beverage Packaging	Product Weight	Packaging Weight	Product-to-Packaging Ratio	Packaging Weight per 100 g Product	Energy Consumption MJ/8 oz	Emissions Kg CO <sub>2</sub> e /8 oz
Glass Bottle & Metal Cap	8 ounces (236 g)	198.4 g	1:1	83.9 g	3.36	0.29
Plastic PET Bottle & Cap	8 ounces (236 g)	22.7 g	10:1	9.6 g	3.00	0.18
Aluminum Can	8 ounces (236 g)	11.3 g	21:1	4.7 g	0.99	0.08
Stand-up Flexible Pouch	6.75 ounces (199 g)	5.7 g	35:1	2.8 g	0.45	0.02

Source: FPA/Battelle Memorial Institute, *Sustainability Assessment of Flexible Packaging*; and *Flexible Packaging! Less Resources, Energy, Emissions, and Waste* (brochure)  
Cradle-to-grave life cycle energy consumption and greenhouse gas emissions data developed for FPA by Battelle Memorial Institute. Packaging weight, product weight, and product-to-packaging ratio calculated by PTIS. Beverage assumed to be water.

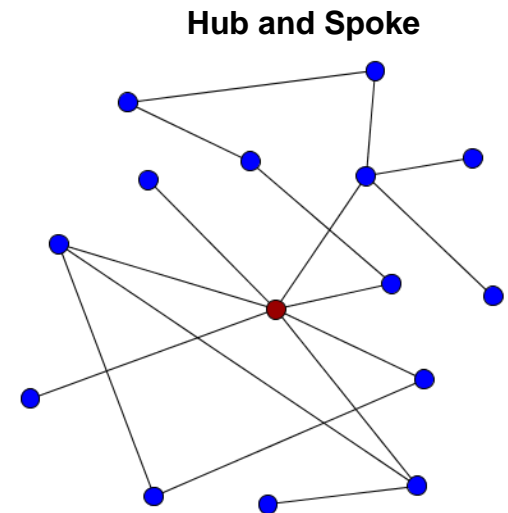
# Mono material flexible packaging



- Mono-materials are one of the soundest routes to generating more sustainable flexible packaging. These materials eliminate the need for material separation and risks of tainting a recycling stream, making recyclability easier to achieve. However, use has been somewhat restricted due to their inability to achieve the same high-protection barriers as multilayer films. For this reason, their use is largely concentrated on low-moisture products, such as sugar confectionery, sweet biscuits and powder detergents.
- The success of mono-materials will depend on the support and development of recycling systems, ensuring successful collection, sorting and recycling, as well as clear communication of recyclability from manufacturers. Packaging that is redesigned as a mono-material could promote recyclability on products in an effort to educate consumers on how to correctly dispose of it.

# Flexible Film Converters

- Growing market
  - Single-serve and re-fill (sustainability)  
pouches, longer shelf-life, lighter, lower-cost packaging
- Rapidly consolidating market; Top 10 account for about 55% of market share
  - Est. 30-50 M&A deals annually since 2018
  - Global conglomerates
  - All are extruders, with printing a secondary function
- Strong private equity interest
  - Good cashflow, ability to reduce cost through M&A



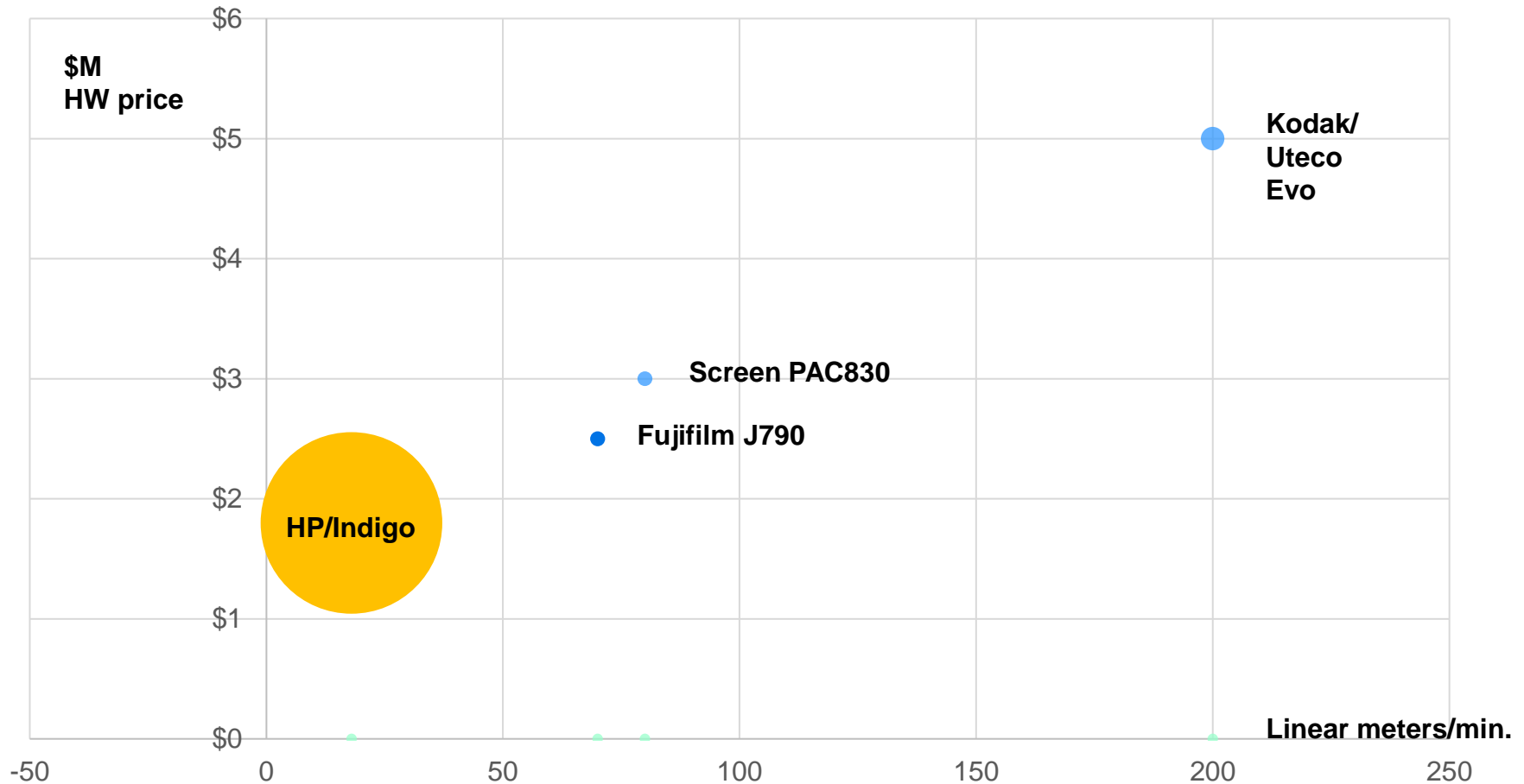
# Flexible Packaging – Liquid Toner Forecast WW

2019: 75 2020: 48	CY 2021	World	FP EP					
	2021	2022	2023	2024	2025	2026	2027	cagr 22-27
Sales Units	53	56	57	59	61	63	65	3.00%
YOY		5.00%	3.00%	3.00%	3.00%	3.00%	3.00%	
Installed Base	237	250	253	254	261	277	298	3.55%
HW\$	\$74,200,000	\$77,910,000	\$80,247,300	\$82,654,719	\$85,134,361	\$87,688,391	\$90,319,043	3.00%
Ink Liters	630,324	733,299	814,335	941,362	1,162,841	1,478,396	1,908,801	21.09%
Ink \$	\$63,032,369	\$73,329,876	\$81,433,453	\$94,136,225	\$116,284,095	\$147,839,569	\$190,880,057	21.09%
Services \$	\$33,124,000	\$35,032,200	\$35,366,870	\$35,551,073	\$36,596,117	\$38,772,529	\$41,716,969	3.55%
Total VR\$	\$170,356,369	\$186,272,076	\$197,047,623	\$212,342,017	\$238,014,573	\$274,300,489	\$322,916,069	11.63%
M2 Printed	107,747,640	125,350,216	139,202,485	160,916,624	198,776,231	252,717,212	326,290,696	21.09%
M2 Media	107,747,640	125,350,216	139,202,485	160,916,624	198,776,231	252,717,212	326,290,696	21.09%
A4 Printed	1,723,962,240	2,005,603,459	2,227,239,754	2,574,665,987	3,180,419,698	4,043,475,393	5,220,651,130	21.09%
Retail \$	\$681,425,478	\$745,088,306	\$788,190,494	\$849,368,068	\$952,058,290	\$1,097,201,957	\$1,291,664,278	11.63%
Consumables Ratio	37.00%	39.37%	41.33%	44.33%	48.86%	53.90%	59.11%	8.47%

# Flexible Packaging – Inkjet Forecast WW

	CY 2021	<i>World</i>	<i>FP AQU</i>					
	2021	2022	2023	2024	2025	2026	2027	cagr 22-27
Sales Units	4	4	5	8	10	11	14	25.48%
YOY		10.00%	20.00%	50.00%	20.00%	20.00%	20.00%	
Installed Base	18	19	20	24	29	36	44	18.72%
HW\$	\$11,000,000	\$12,100,000	\$14,520,000	\$21,780,000	\$26,136,000	\$31,363,200	\$37,635,840	25.48%
Ink Liters	29,106	46,902	59,875	84,525	154,140	287,256	537,579	62.87%
		2,495	2,994	3,593	5,389	8,083	12,125	
Ink \$	\$1,600,830	\$2,063,699	\$2,371,058	\$3,347,175	\$6,103,957	\$11,375,331	\$21,288,144	59.48%
Services \$	\$4,812,500	\$5,170,000	\$5,500,000	\$6,470,200	\$7,866,100	\$9,772,840	\$12,192,796	18.72%
Total VR\$	\$17,413,330	\$19,333,699	\$22,391,058	\$31,597,375	\$40,106,057	\$52,511,371	\$71,116,780	29.76%
M2 Printed	10,395,000	16,750,800	21,384,000	30,187,365	55,050,114	102,591,365	191,992,643	62.87%
M2 Media	10,395,000	16,750,800	21,384,000	30,187,365	55,050,114	102,591,365	191,992,643	62.87%
A4 Printed	166,320,000	268,012,800	342,144,000	482,997,842	880,801,828	1,641,461,843	3,071,882,287	62.87%
Retail \$	\$139,306,640	\$154,669,588	\$179,128,463	\$252,779,000	\$320,848,453	\$420,090,965	\$568,934,242	29.76%
Consumables Ratio	9.19%	10.67%	10.59%	10.59%	15.22%	21.66%	29.93%	22.90%

# Digital Flexible Film Press Mfrs. Positioning 2022 WW



- toner
- Inkjet

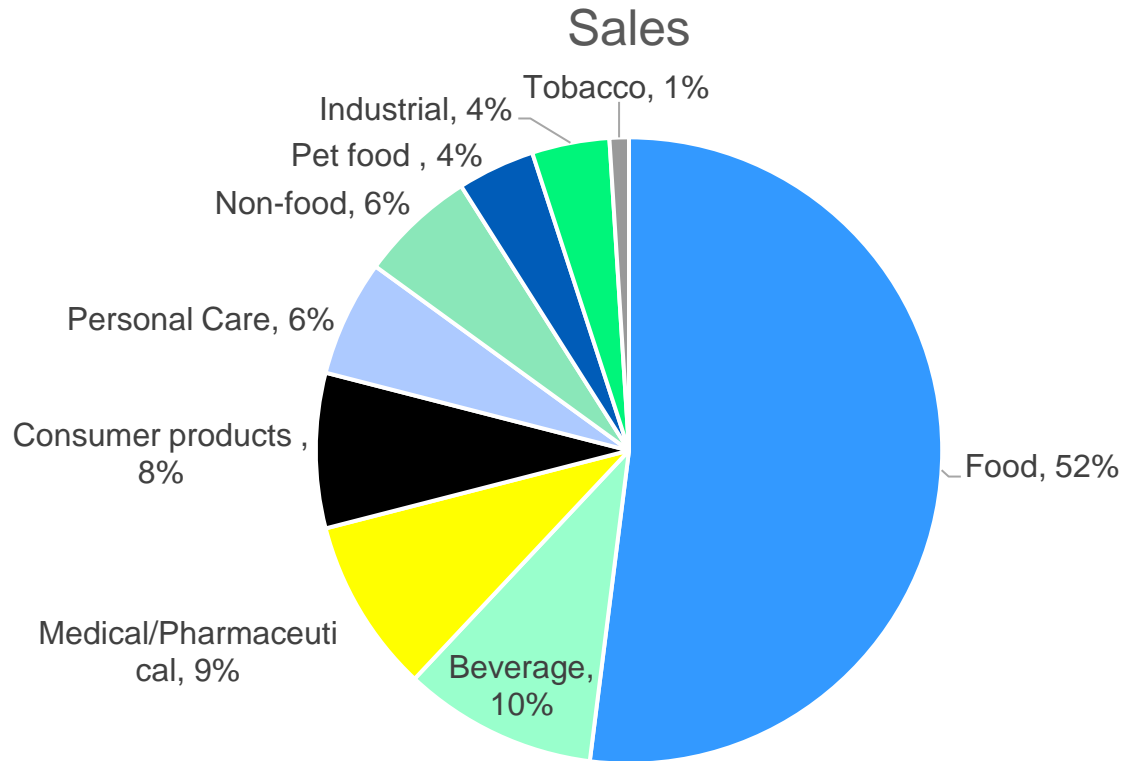
Size of bubble denotes commercial success 2022



# Implications for a Flexible Packaging IJ press

- #1 challenge: technical
  - Inks that stick on film, optically clear pre-coat, white inks
  - -Lock-in specification with broadest possible application use at capital HW cost converters are willing to invest in.
    - 660mm (26")
- #2 challenge
  - Converter business models not set-up for short-run; need to find a good initial “partner” to work through short-run business model challenges. Together develop program to:
    - Fill IJ press to optimal capacity for strong return-on-investment through software automated self-serve sales; capture net-new customers
    - Fill IJ press with short-run orders from existing clients to free up capacity on flexo for additional long-run orders

# Flexible Packaging Applications



<https://www.flexpack.org/facts-and-figures>

# Comexi Digiflex

- Digiflex is an all-in-one solution that includes the integration of the curing process, tension control, printing registration, corona treatment, and a video inspection system.
- Uses low-migration inks that are suitable for food packaging printing; it offers excellent results in regard to quality tests (tape, ethanol, and scratch). The machine allows for the possibility of double-sided printing without treatment, as well as printing on pre-printed material. As a digital press, the Digiflex is an efficient solution due to its ability to reduce set-up times. It can reach a maximum speed of 220 m/min
- Resolution of up to 1200x1200 dpi

# IJ Flexible Film Press Entering the Market; Announcements 2020

**Koenig & Bauer** concluded a cooperation agreement for the further development of the RotaJET.

With a new press for digitally printed flexible and extensible film, Koenig & Bauer is strengthening its strategic focus on the growth market of flexible and extensible film and digital presses.

The press is to be developed based on the RotaJET and the first installations are expected to commence production of digitally printed flexible and extensible film in the coming year.

"Our RotaJET is already well established on the market when it comes to paper applications and decor printing. As the next step, we now want to venture further into digital printing on flexible and extensible films together with one of the top global players in this field," Koenig & Bauer board member Christoph Müller said.

The press will feature a maximum web width of 1,380 mm and will be able to print on both sides of films with a thickness between 0.12 and 0.3 mm.

"Koenig & Bauer has built a reputation as a pioneer of high performance, industrial ecological inkjet printing. With our partner, the new press and its water-based inks, we will be in an even better position to promote sustainability and plan to change the face of the market with digital print for flexible and extensible film aimed at providing improved color precision and additional printing options," Müller said.



Miyakoshi's MJP30AXF is an inkjet press designed to print to flexible films for the packaging market.

Last year, Miyakoshi unveiled a new single pass inkjet press, the MJP30AXF, that prints directly to flexible films, and which the company hopes will help establish it more firmly.

Today, FUJIFILM Corporation has announced that it will be entering the market of flexible packaging with the new Jet Press FP 790 water-based inkjet digital press. The plan is to launch the new Jet Press product into the North American market in fall 2021, and thereafter will gradually expand it to Europe and other parts of the world. Fujifilm will continue to leverage the enormously successful Jet Press brand into its line of digital presses.

# Fujifilm JetPress FP790



The maximum substrate width is 790mm and the printing line speed is 50 meters per minute. Switch printing jobs and design adjustments can be made within a minimum of 10 minutes. It has productivity that can complement existing production

<b>PRINTING METHOD</b>	Water-based inkjet, single pass
<b>PRINT SPEED</b>	164 ft./min (50 m/min)
<b>IMAGE RESOLUTION</b>	1,200dpi x 1,200dpi
<b>MAXIMUM IMAGE SIZE</b>	29 in. (750mm)
<b>SUBSTRATE WIDTH</b>	20 – 31 in. (495mm – 790mm)
<b>SUBSTRATE THICKNESS</b>	12 to 100 microns
<b>SUBSTRATE MATERIAL</b>	PET, BOPP, BOPA, and most common packaging films
<b>MAIN APPLICATION</b>	Flexible packaging for food and non-food, reverse print
<b>UN-WINDER</b>	Max roll diameter: 23.6 in. (600mm), Max roll weight: 440lbs. (200kg)
<b>RE-WINDER</b>	Max roll diameter: 23.6 in. (600mm), Max roll weight: 440lbs. (200kg)
<b>DIMENSIONS (W X H X D)</b>	472 in. x 94 in. x 98 in. ( 12,000mm x 2,400mm x 2,500mm)
<b>WEIGHT</b>	36,376 lbs. (16,500kg)
<b>MINIMUM FLOOR SPACE (W X D)</b>	634 in. x 317 in. (16,090mm x 8,060mm) incl. auxiliary equipment & work space
<b>POWER-SUPPLY VOLTAGE</b>	200V and 400V
<b>INK</b>	Water-based pigmented ink, 5 colors WP-F Cyan, Magenta, Yellow, Black and White
<b>PRE-CONDITIONER</b>	Water-based coating liquid

# Screen Truepress PAC830F



**Truepress PAC830F** Water-based Inkjet System for Flexible Packaging

- A water-based inkjet press, the Truepress PAC830F is the latest addition to SCREEN Americas' family of Label & Packaging presses. With a printing speed of 75 meters per minute (4,500 m/h) for materials of up to 830mm wide and a resolution of 1,200 dpi, the Truepress PAC830F has revolutionized flexible packaging. As flexible as the bags it prints, the press adapts to desirable print runs of under 4,000 meters. Without the inconvenience of having to change plates and perform required cleaning, your experience will include a press that spends more time printing and less time pausing for preparation. Easy to operate, you'll save time and money on training. With shorter run-times and fewer intermediate materials producing less liquid waste, the Truepress PAC830F is environmentally friendly.

# Kodak/Uteco Evo



The Sapphire EVO digital press is equipped with Kodak's Stream Inkjet Technology and offers a printing capacity of more than 9,000 linear meters per hour.

Models	130		130	
Digital technology	Kodak Ultrastream			
Web width	[mm]	1350	[inch]	53,15
Print width	[mm]	1260	[inch]	49,61
Min. printing repeat	[mm]	-	[inch]	-
Max. printing repeat	[mm]	1370	[inch]	53,94
Continuous print format	Yes			
Num. of color	4 (CMYK)			
Resolution	600x1800 dpi			
Mechanical speed	[m/min]	200	[ft/min]	656
Tension range	[N]	3 ÷ 54	[lbf]	0,67 ÷ 12,13
Materials	PP, PET, PE, OPA, Paper, Cardboard, Alu			
Inks	Water based			
Reels diameter	[mm]	1000	[inch]	39,37
L x H x P* (min.)	[mm]	19000x4100x7800	[inch]	748.0x161.4x307.1
Optional	Custom configurations Pre priming / white / PMS Post coating / white / OPV / PMS Reprinting system in line Conductive materials			

# Top 25 US Flexible Film Converters -

## Top 25 Converters of 2021

2021 Rank	2020 Sales (in millions)	Company Information	2020 Rank
1	\$3.7B*	<b>NOVOLEX</b> Hartsville, South Carolina Stan Bikulege, chairman and CEO <b>Plants in N.A.:</b> 61 <b>Employees in N.A. (flex pkg only):</b> 10,000 <b>Markets Served:</b> 1 2 3 4 5 7 8 9	1
2	\$3.6B*	<b>Amcor</b> Buffalo Grove, Illinois Ron Delia, CEO <b>Plants in N.A.:</b> 43 <b>Employees in N.A. (flex pkg only):</b> 10,900 <b>Markets Served:</b> 1 2 3 4 5 6 8 9	2
3	\$3.3B	<b>Berry Global</b> Evansville, Indiana Tom Salmon, CEO <b>Plants in N.A.:</b> 39 <b>Employees in N.A. (flex pkg only):</b> 5,500 <b>Markets Served:</b> 1 2 3 4 5 6 7 8 9	3
4↑	\$2.9B*	<b>Sealed Air Corp.</b> Charlotte, North Carolina Ted Doheny, president and CEO <b>Plants in N.A.:</b> 43 <b>Employees in N.A. (flex pkg only):</b> 6,000 <b>Markets Served:</b> 1 2 3 4 5 6 7 8	5



# Top 25 US Flexible Film Converters -

5 ↓	\$2.6B*	<b>Sigma Plastics Group</b> Lyndhurst, New Jersey Mark Teo, CEO <b>Plants in N.A.:</b> 43 <b>Employees in N.A. (flex pkg only):</b> 4,500 <b>Markets Served:</b> 1 2 3 4 5 6 7 8 9	4
6	\$1.53B	<b>ProAmpac</b> Cincinnati, Ohio Greg Tucker, CEO <b>Plants in N.A.:</b> 34 <b>Employees in N.A. (flex pkg only):</b> 4,600 <b>Markets Served:</b> 1 2 3 4 5 6 7 8 9	6
7	\$1.3B	<b>Printpack Inc.</b> Atlanta, Georgia James E. Love, III, president and COO <b>Plants in N.A.:</b> 19 <b>Employees in N.A. (flex pkg only):</b> 3,360 <b>Markets Served:</b> 1 2 3 4 5 6 7 8 9	7
8	\$1.053B	<b>TC Transcontinental</b> Vaughan, Ontario, Canada Francois Olivier, president and CEO <b>Plants in N.A.:</b> 26 <b>Employees in N.A. (flex pkg only):</b> 3,800 <b>Markets Served:</b> 1 2 3 4 5 6 7 8 9	8
9	\$852	<b>Winpak Ltd.</b> Winnipeg, Manitoba, Canada Olivier Y. Muggli, president and CEO <b>Plants in N.A.:</b> 12 <b>Employees in N.A. (flex pkg only):</b> 2,507 <b>Markets Served:</b> 1 2 3 4 5 6 7 8	9

# Top 25 US Flexible Film Converters -

10	\$700*	<b>Hood Packaging Corp.</b> Burlington, Ontario, Canada/Madison, Mississippi Robert Morris, president <b>Plants in N.A.:</b> 23 <b>Employees in N.A. (flex pkg only):</b> 2,200 <b>Markets Served:</b> 1 2 6 7 8 9	10
11 ↑	~\$700	<b>Pregis LLC</b> Deerfield, Illinois Kevin Baudhuin, president and CEO <b>Plants in N.A.:</b> 24 <b>Employees in N.A. (flex pkg only):</b> 2,300 <b>Markets Served:</b> 1 3 4 5 6 7 8 9	13
12	\$600	<b>Sonoco Products Company</b> Hartsville, South Carolina Russell Grissett, VP & GM, Global Flexibles <b>Plants in N.A.:</b> 8 <b>Employees in N.A. (flex pkg only):</b> 1,500 <b>Markets Served:</b> 1 2 3 4 5 6 7 8 9	12
13 ↓	\$580	<b>Mondi in North America</b> Romeoville, Illinois Joe Moynihan, president, Mondi Jackson, Consumer Flexibles <b>Plants in N.A.:</b> 13 <b>Employees in N.A. (flex pkg only):</b> 1,700 <b>Markets Served:</b> 1 2 3 5 6 8 9	11
14 ↑	\$400	<b>Bryce Corporation</b> Memphis, Tennessee Thomas Bryce, chairman and CEO <b>Plants in N.A.:</b> 4 <b>Employees in N.A. (flex pkg only):</b> 939 <b>Markets Served:</b> 1 2 5 6 7 8	15

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15 ↓	~\$320	<b>American Packaging Corporation</b> Columbus, Wisconsin Peter Schottland, CEO <b>Plants in N.A.:</b> 5 <b>Employees in N.A. (flex pkg only):</b> 980 <b>Markets Served:</b> 1 2 3 4 5 6 7 8 9	14
16 ↑	\$303	<b>PPC Flexible Packaging</b> Buffalo Grove, Illinois Kevin Keneally, CEO <b>Plants in N.A.:</b> 9 <b>Employees in N.A. (flex pkg only):</b> 1,000 <b>Markets Served:</b> 1 2 3 4	17
17 ↓	\$275*	<b>Scholle IPN</b> Northlake, Illinois Ross Bushnell, CEO <b>Plants in N.A.:</b> 6 <b>Employees in N.A. (flex pkg only):</b> 1,000 <b>Markets Served:</b> 1 2 3 5 6 7 8 9	16
18 ↑	\$250*	<b>C-P Flexible Packaging</b> York, Pennsylvania Mike Hoffman, president and CEO <b>Plants in N.A.:</b> 6 <b>Employees in N.A. (flex pkg only):</b> 750 <b>Markets Served:</b> 1 2 5 6	22
19 ↓	\$220*	<b>Tekni-Plex</b> Wayne, Pennsylvania Brenda Chamulak, president and CEO <b>Plants in N.A.:</b> 22 <b>Employees in N.A. (flex pkg only):</b> ~500 <b>Markets Served:</b> 1 2 3 4 5 6 7 8	18

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19 ↓	\$220*	<b>Tekni-Plex</b> Wayne, Pennsylvania Brenda Chamulak, president and CEO <b>Plants in N.A.:</b> 22 <b>Employees in N.A. (flex pkg only):</b> ~500 <b>Markets Served:</b> 1 2 3 4 5 6 7 8	18
20 ↓	\$200*	<b>Belmark</b> De Pere, Wisconsin Karl Schmidt, president and CEO <b>Plants in N.A.:</b> 3 <b>Employees in N.A. (flex pkg only):</b> 1,000 <b>Markets Served:</b> 1 2 3 6	19

# Top 25 US Flexible Film Converters -

21 ↓	\$200*	<b>InterFlex Group</b> Wilkesboro, North Carolina Stephen Doyle, CEO <b>Plants in N.A.:</b> 2 <b>Employees in N.A. (flex pkg only):</b> 350 <b>Markets Served:</b> 1 4 5 6	20
22 ↑	\$170*	<b>Liqui-Box</b> Richmond, Virginia Ken Swanson, president and CEO <b>Plants in N.A.:</b> 6 <b>Employees in N.A. (flex pkg only):</b> 500 <b>Markets Served:</b> 1 2 8	23
23 ↓	\$169	<b>Oliver</b> Grand Rapids, Michigan Michael Benevento, president and CEO <b>Plants in N.A.:</b> 6 <b>Employees in N.A. (flex pkg only):</b> 225 <b>Markets Served:</b> 3 4 5	21
24	\$120*	<b>St. Johns Packaging</b> Quebec, Canada Marc Leclair, president and CEO <b>Plants in N.A.:</b> 5 <b>Employees in N.A. (flex pkg only):</b> ~500 <b>Markets Served:</b> 1 5 6	24
25	\$110*	<b>Inland Packaging</b> La Crosse, Wisconsin Mark Glendenning, CEO <b>Plants in N.A.:</b> 6 <b>Employees in N.A. (flex pkg only):</b> 400 <b>Markets Served:</b> 1 2 5 6	25

# 2020 TOP 25 CONVERTERS

2019 SALES (IN MILLIONS)	COMPANY // HEADQUARTERS	PREV. RANK	HIGHEST RANKING OFFICER	PLANTS IN N.A.	EMPLOYEES IN N.A. (FLEXIBLE PKG ONLY)	MARKETS SERVED
<b>01</b> <b>\$3.6B*</b>	<b>NOVOLEX</b> <i>Hartsville, SC</i>	01	Stan Bikulege // <i>Chairman &amp; CEO</i>	61	9,606	1 2 3 4 5 7 8 9
<b>02</b> <b>\$3.5B*</b>	<b>AMCOR</b> <i>Buffalo Grove, IL</i>	10	Ron Delia // <i>CEO</i>	43	10,900	1 2 3 4 5 6 8 9
<b>03</b> <b>\$2.6B</b>	<b>BERRY GLOBAL</b> <i>Evansville, IN</i>	05	Tom Salmon // <i>CEO</i>	39	5,500	1 2 3 4 5 6 7 8 9
<b>04</b> <b>\$2.6B*</b>	<b>SIGMA PLASTICS GROUP</b> <i>Lyndhurst, NJ</i>	04	Mark Teo // <i>CEO</i>	43	4,500	1 2 3 4 5 6 7 8 9
<b>05</b> <b>\$2.55B*</b>	<b>SEALED AIR CORP.</b> <i>Charlotte, NC</i>	03	Ted Doheny // <i>President &amp; CEO</i>	38	6,000	1 2 3 4 5 6 7 8
<b>06</b> <b>\$1.33B</b>	<b>PROAMPAC</b> <i>Cincinnati, OH</i>	07	Greg Tucker // <i>CEO</i>	27	3,600	1 2 3 4 5 6 7 8 9
<b>07</b> <b>\$1.3B*</b>	<b>PRINTPACK INC.</b> <i>Atlanta, GA</i>	08	James E. Love, III // <i>President &amp; COO</i>	19	3,900	1 2 3 4 5 6 7 8 9
<b>08</b> <b>\$1.135B</b>	<b>TC TRANSCONTINENTAL</b> <i>Vaughan, Ontario, Canada</i>	06	Francois Olivier // <i>President &amp; CEO</i>	19	3,220	1 2 3 4 5 6 7 8 9
<b>09</b> <b>\$874M</b>	<b>WINPAK LTD.</b> <i>Winnipeg, Manitoba, Canada</i>	09	Olivier Y. Muggli // <i>President &amp; CEO</i>	12	2,500	1 2 3 4 5 6 7 8
<b>10</b> <b>\$700M*</b>	<b>HOOD PACKAGING CORP.</b> <i>Burlington, Ontario, Canada / Madison, MS</i>	11	Robert Morris // <i>President</i>	23	2,200	1 2 6 7 8 9

Novolex – strong M&A strategy

Amcor – bought Bemis #1 flexible packaging converter in 2018)

Berry Global: 350 site WW; 39 in US; Acquired RPC Group in Europe, Clopay Plastic in US

Sigma – acquired Polypak

ProAmpac – 15 acquisitions since 2016; 7 in 2021 alone – Owned by Pritzker Partners

Transcontinental – bought Coveris, Les Industries, Multifilm Packaging, transitioning co. from publishing to flexible packaging

MARKETS: 1–Food; 2–Beverage; 3–Pharmaceutical; 4–Medical; 5–Personal Care; 6–Household Care; 7–Retail; 8–Industrial; 9–Agriculture



<b>10</b> <b>\$700M*</b>	<b>HOOD PACKAGING CORP.</b> <i>Burlington, Ontario, Canada / Madison, MS</i>	11	Robert Morris // <i>President</i>	23	2,200	1 2 6 7 8 9
<b>11</b> <b>\$579M</b>	<b>MONDI IN NORTH AMERICA</b> <i>Romeoville, IL</i>	12	Joe Moynihan // <i>President</i> <i>Mondi Jackson, Consumer Flexibles</i>	13	1,700	1 2 3 5 6 8 9
<b>12</b> <b>\$600M</b>	<b>SONOCO PRODUCTS COMPANY</b> <i>Hartsville, SC</i>	13	Russell Grissett // <i>VP &amp; GM</i> <i>Global Flexibles</i>	8	1,500	1 2 3 4 5 6 7 8 9
<b>13</b> <b>\$600M</b>	<b>PREGIS LLC</b> <i>Deerfield, IL</i>	14	Kevin Baudhuin // <i>President &amp; CEO</i>	18	1140	1 3 4 5 6 7 8 9
<b>14</b> <b>\$500M</b>	<b>AMERICAN PACKAGING CORP.</b> <i>Columbus, WI</i>	15	Peter Schottland // <i>CEO</i>	5	1,100	1 2 3 4 5 6 7 8 9
<b>15</b> <b>\$355M*</b>	<b>BRYCE CORP.</b> <i>Memphis, TN</i>	16	Thomas Bryce // <i>Chairman &amp; CEO</i>	4	800	1 2 5 6 7 8
<b>16</b> <b>\$285M*</b>	<b>SCHOLLE IPN</b> <i>Northlake, IL</i>	17	Ross Bushnell // <i>CEO</i>	6	1,000	1 2 3 5 6 7 8 9
<b>17</b> <b>\$235M*</b>	<b>PPC FLEXIBLE PACKAGING</b> <i>Buffalo Grove, IL</i>	19	Kevin Keneally // <i>CEO</i>	7	~900	1 2 3 4
<b>18</b> <b>\$220M*</b>	<b>TEKNI-PLEX</b> <i>Wayne, PA</i>	N/A	Paul J. Young // <i>President &amp; CEO</i>	22	~500	1 2 3 4 5 6 7 8
<b>19</b> <b>\$200M*</b>	<b>BELMARK</b> <i>De Pere, WI</i>	18	Karl Schmidt // <i>President &amp; CEO</i>	3	1,000	1 2 3 6
<b>20</b> <b>\$200M*</b>	<b>INTERFLEX GROUP</b> <i>Wilkesboro, NC</i>	20	Stephen Doyle // <i>CEO</i>	2	350	1 4 5 6

**Mondi – Global leader in flexible packaging**  
**PCC - private-equity backed, pursuing M&A strategy**



<b>21</b> <b>\$154M</b>	<b>OLIVER</b> <i>Grand Rapids, MI</i>	22	Michael Benevento // <i>President &amp; CEO</i>	6	225	3 4 5
<b>22</b> <b>\$140M*</b>	<b>C-P FLEXIBLE PACKAGING</b> <i>York, PA</i>	23	Mike Hoffman // <i>President &amp; CEO</i>	5	750	1 2 5 6
<b>23</b> <b>\$130M*</b>	<b>LIQUI-BOX</b> <i>Richmond, VA</i>	24	Ken Swanson // <i>President &amp; CEO</i>	6	500	1 2 8
<b>24</b> <b>\$120M*</b>	<b>ST. JOHNS PACKAGING</b> <i>Quebec, Canada</i>	25	Marc Leclair // <i>President &amp; CEO</i>	5	~500	1 5 6
<b>25</b> <b>\$110M</b>	<b>INLAND PACKAGING</b> <i>La Crosse, WI</i>	N/A	Mark Glendenning // <i>President &amp; CEO</i>	5	400	1 2 5 6