

inkjet | 10th
SUMMIT ANNIVERSARY

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Printing Impressions **In-plant Impressions**

Automation and Innovation, Driving the Inkjet Opportunity:

A sobering reality followed by opportunity

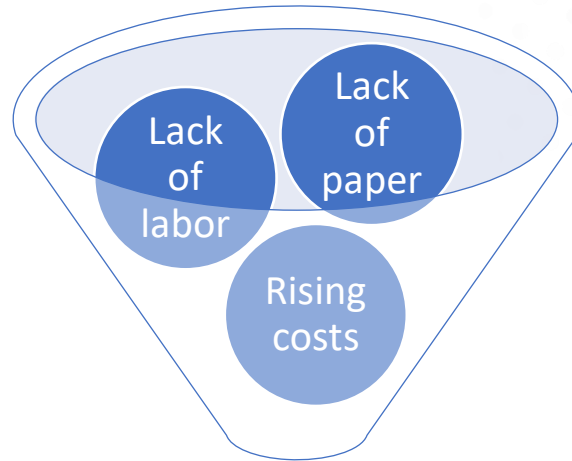
Presented by Marco Boer
Vice-President, IT Strategies, Inc.

April 11, 2022

Austin, Texas



2021-2022 Print Market Challenges

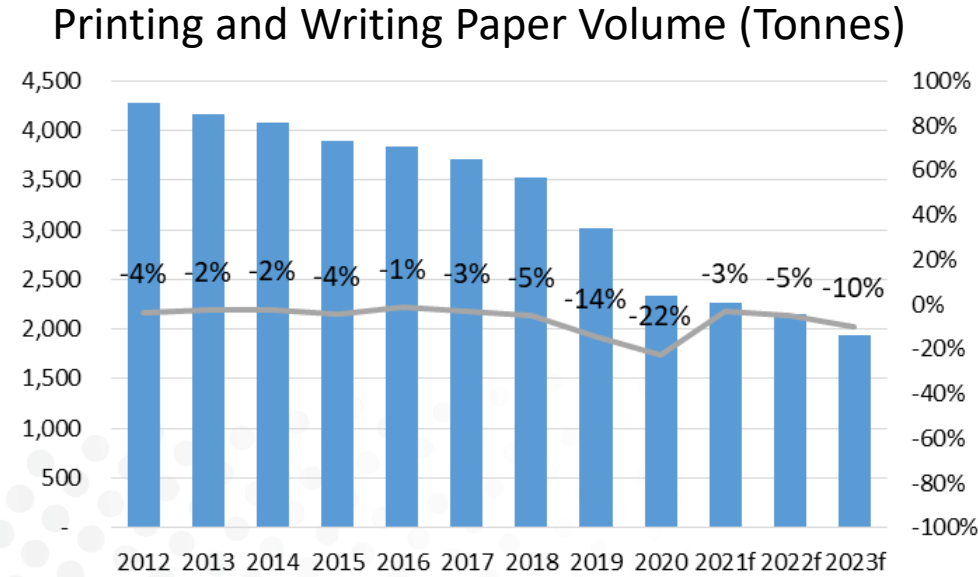


Flat print budgets, higher cost = less print volume

What needs to be printed has to be more relevant, timely

How did we get to a lack of paper?

Source: PPPC 000's tonnes coated freesheet US – July 2021



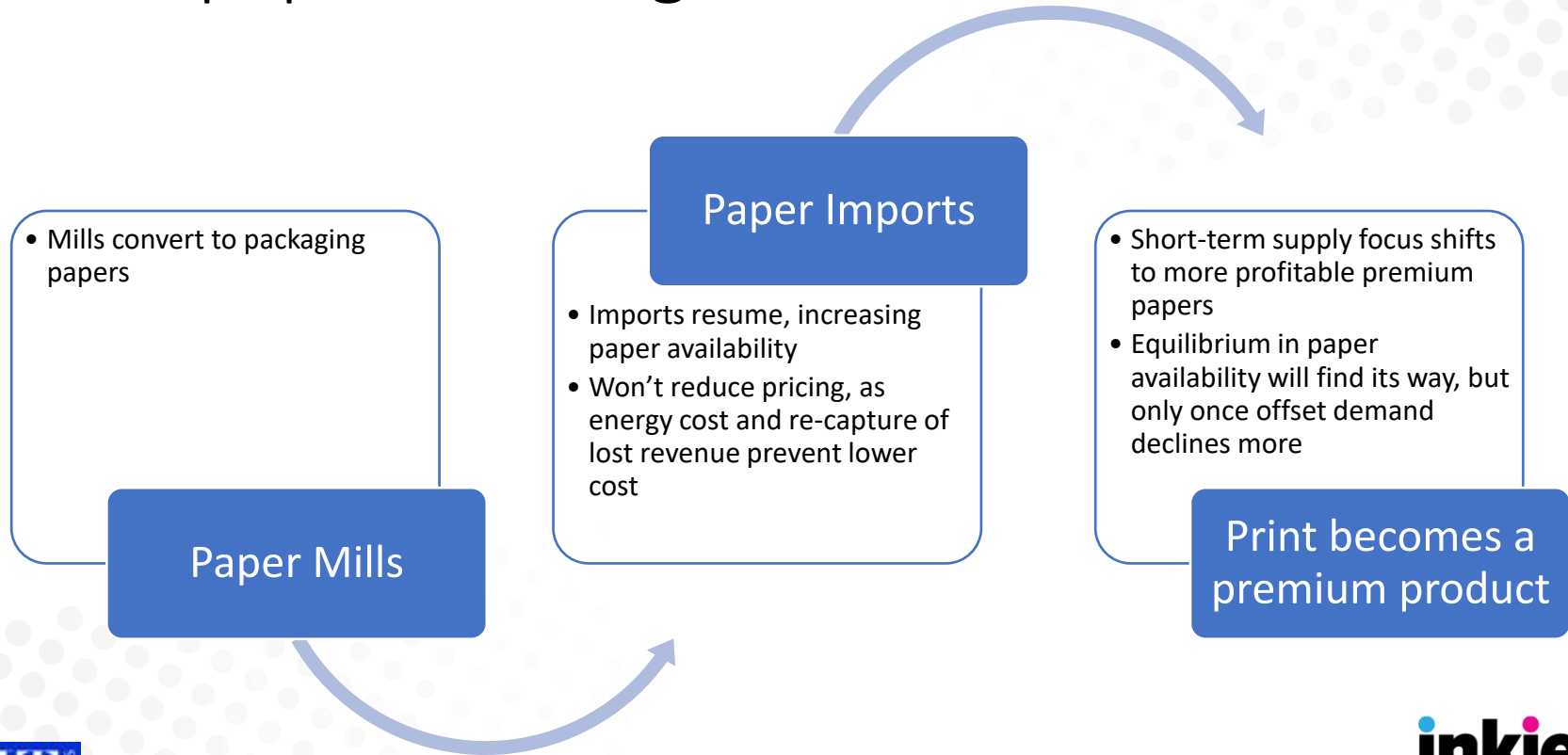
95% of this volume is offset
Digital printing is growing, but from a small base

As runs lengths get shorter, digital print fits better and better, but it will never be able to replace all of that offset volume

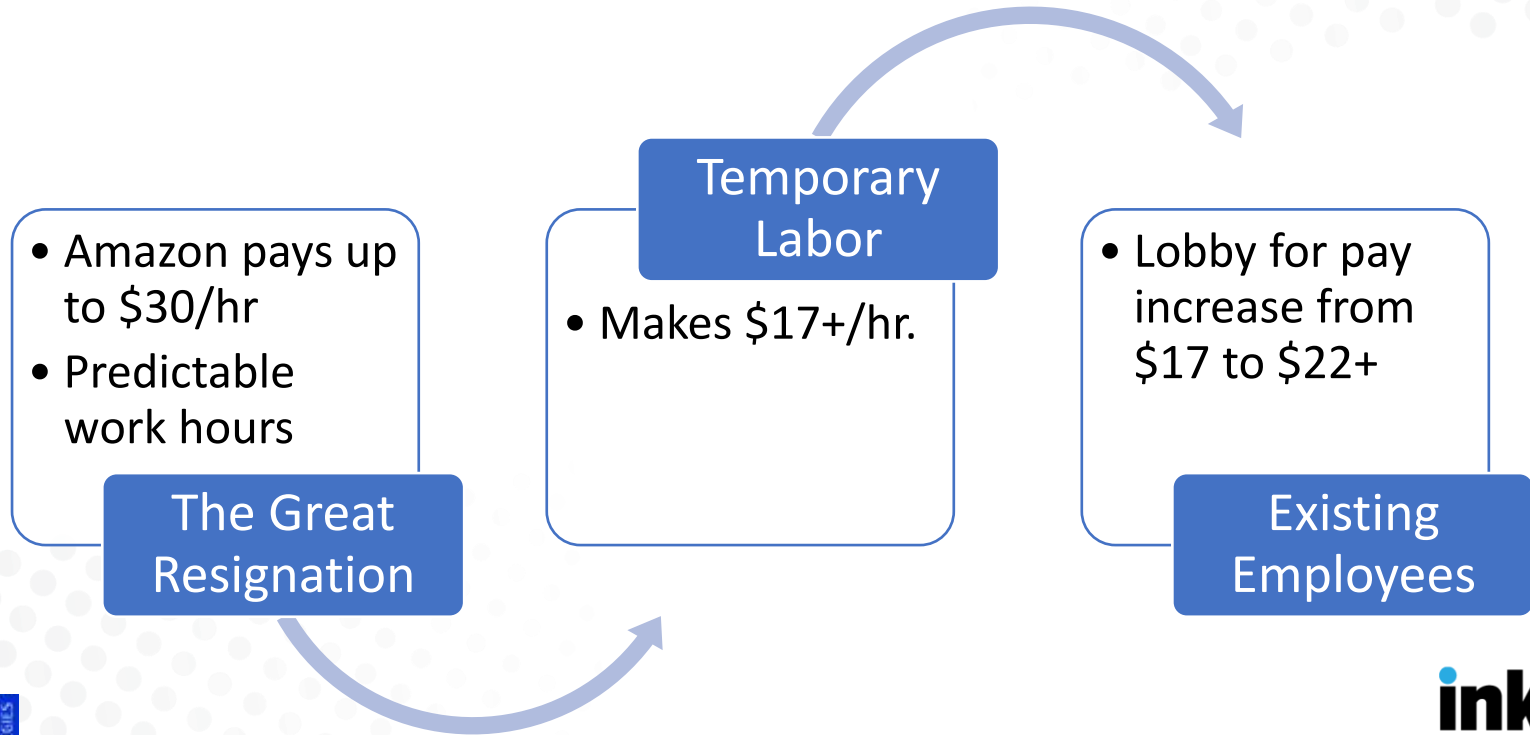
Digital print is a high-value specialty, it complements the the declining volume of offset print but in most applications does not directly replace it



Will the paper challenges end?

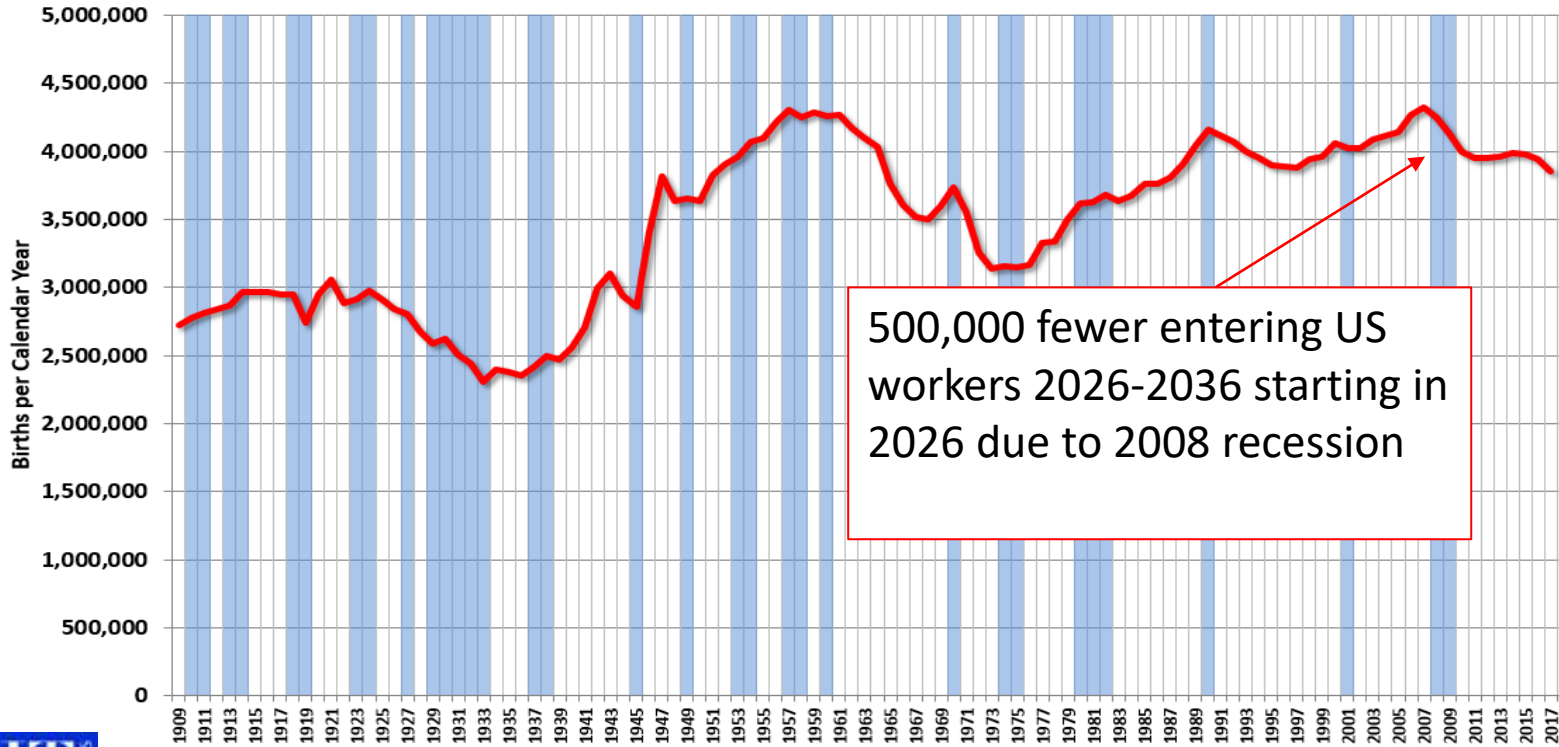


The Labor Wage War



Labor: It's about to get worse...

Births per Year in the U.S., Source: www.cdc.gov



500,000 fewer entering US workers 2026-2036 starting in 2026 due to 2008 recession

<http://www.calculatedriskblog.com/> Note: recessions are marked as full year.



One more variable to add to the complexity



- Consolidating one of the few remaining highly fragmented industries with strong cashflow
- They will force automation, efficiency gains
- Gently used equipment won't solve labor problems

There is no choice but to automate...

An over-simplified example of labor costs

	Operators required	Hourly wage	Shifts/Day	Total Daily Cost	Yearly cost
Offset press operator 1	1	\$35	3	\$840	\$306,600
Offset press operator 2	1	\$17	3	\$408	\$148,920
Digital press	0.5	\$22	3	\$264	\$96,360
				Digital Press Labor Savings	\$359,160

Urgent Homework: Re-calculate your TCOs

Situational Context

Technology
play to
reduce
labor



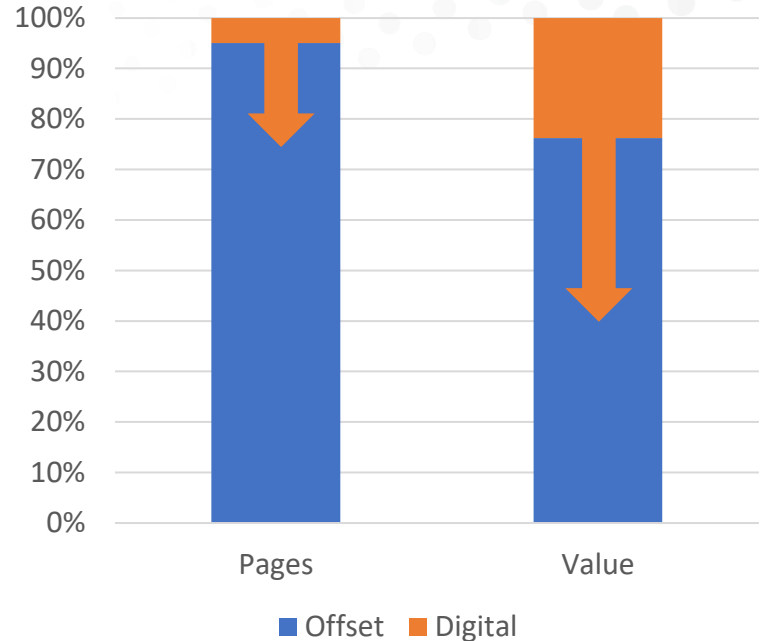
Automation

Innovation

Use
resources
freed up by
automation
to innovate

Innovation: Business Model Change

- As print cost will continue to rise and economies of scale decline, there will be fewer printed pages
- The pages that will be printed will be more valuable (or else they wouldn't be printed)
- Lowest-cost-thousand business model will be replaced by the consultative print sales approach



The Bottom Line

- It's complicated to run a print business these days
- We know that to survive and prosper we need:
 - Automation
 - Innovation
- The inherent efficiencies of production inkjet technology have been amplified as a result of the the COVID' induced supply chain instabilities