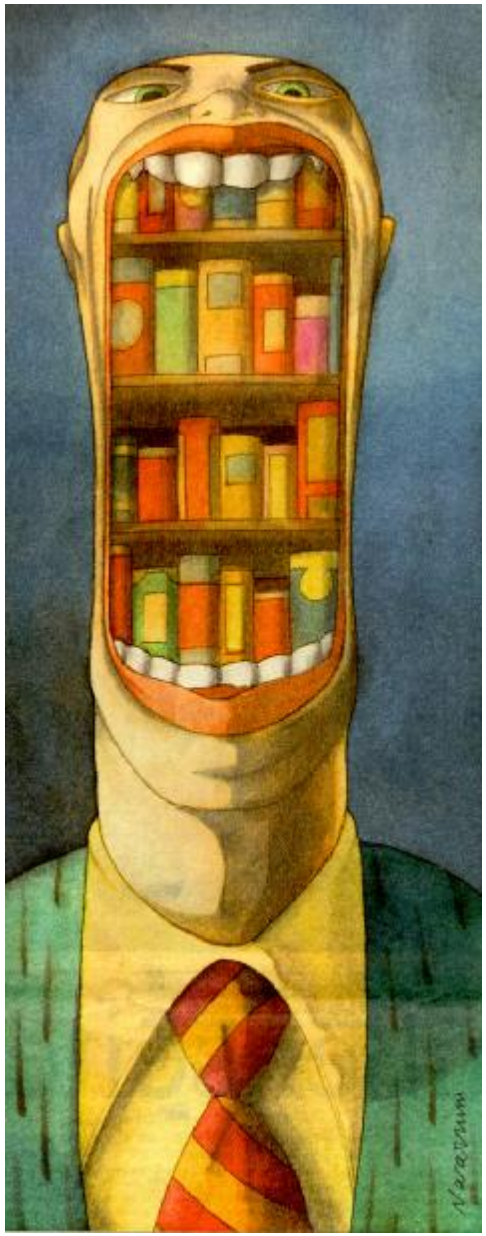
ON BECOMING A
"BAR MITZVAH"

HARDCOVER BINDING SEMINAR
LBI FALL CONFERENCE
SEPTEMBER 29, 2007

Jack Bendror
President
Mekatronics, Inc.

With so many sponsors of digital printers that have contributed to the growth of On-Demand hardcover binding, I chose to speak on the subject and leave the commercial part of my presentation to the end.

Of course, my knowledge of digital printing is by far not as extensive as that of bookbinding machinery. So, research for this presentation became quite extensive as you can see from this slide



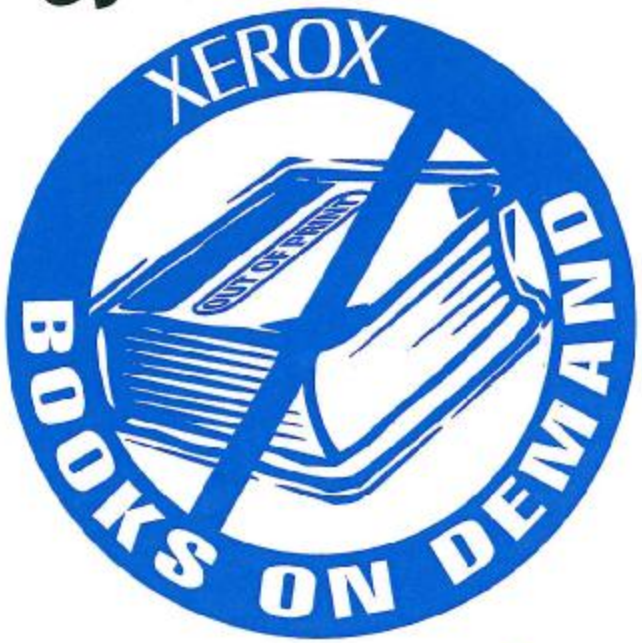
“BAR MITZVAH”

According to Jewish law, a boy is deemed a "bar mitzvah" when he turns **13** and achieves the status of adulthood.

This Seminar brings to memory the first Books-on-Demand Symposium sponsored by Xerox Corporation and LBS that was held in Des Moines, Iowa **13** years ago.

First Annual

Books on Demand Symposium

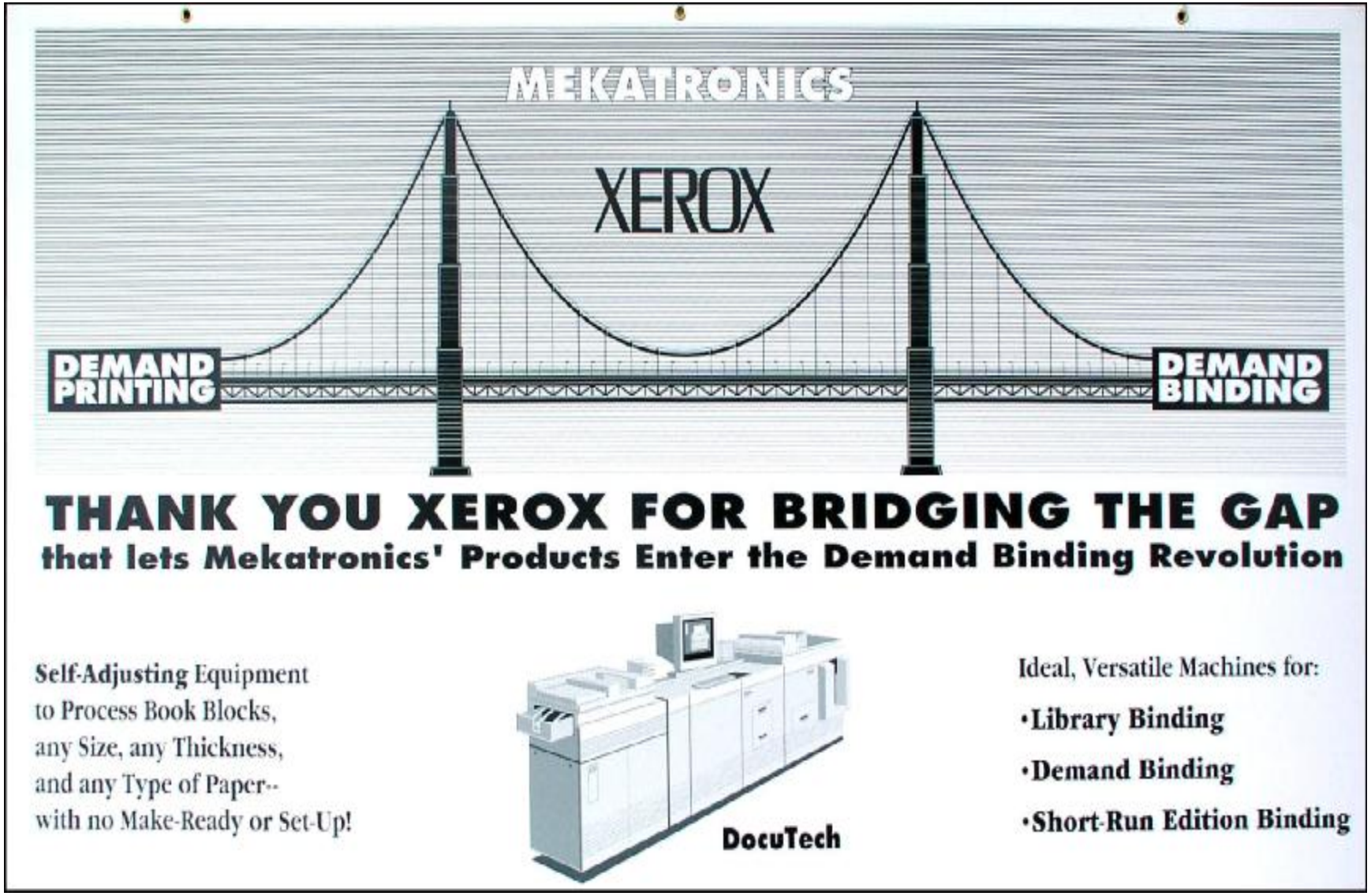


How to Prepare, How to Print, How to Bind.

Saturday & Sunday, June 11th & 12th, 1994
Des Moines Convention Center

...ht to you by Xerox Corporation and LBS Bookbinding Components

In recognition of Xerox's sponsorship and the success of its DocuTech, we placed in our booth this sign but in a 4 x 8 ft size.


MEKATRONICS
XEROX
DEMAND PRINTING
DEMAND BINDING
THANK YOU XEROX FOR BRIDGING THE GAP
that lets Mekatronics' Products Enter the Demand Binding Revolution
Self-Adjusting Equipment
to Process Book Blocks,
any Size, any Thickness,
and any Type of Paper--
with no Make-Ready or Set-Up!
DocuTech
Ideal, Versatile Machines for:
•Library Binding
•Demand Binding
•Short-Run Edition Binding

Penetrating this new potential market was indeed a very slow process

Books on Demand market did not evolve as quickly as I was hoping for the following reasons:

- The early quality gap between digital print engines and that of offset and web printing was huge.

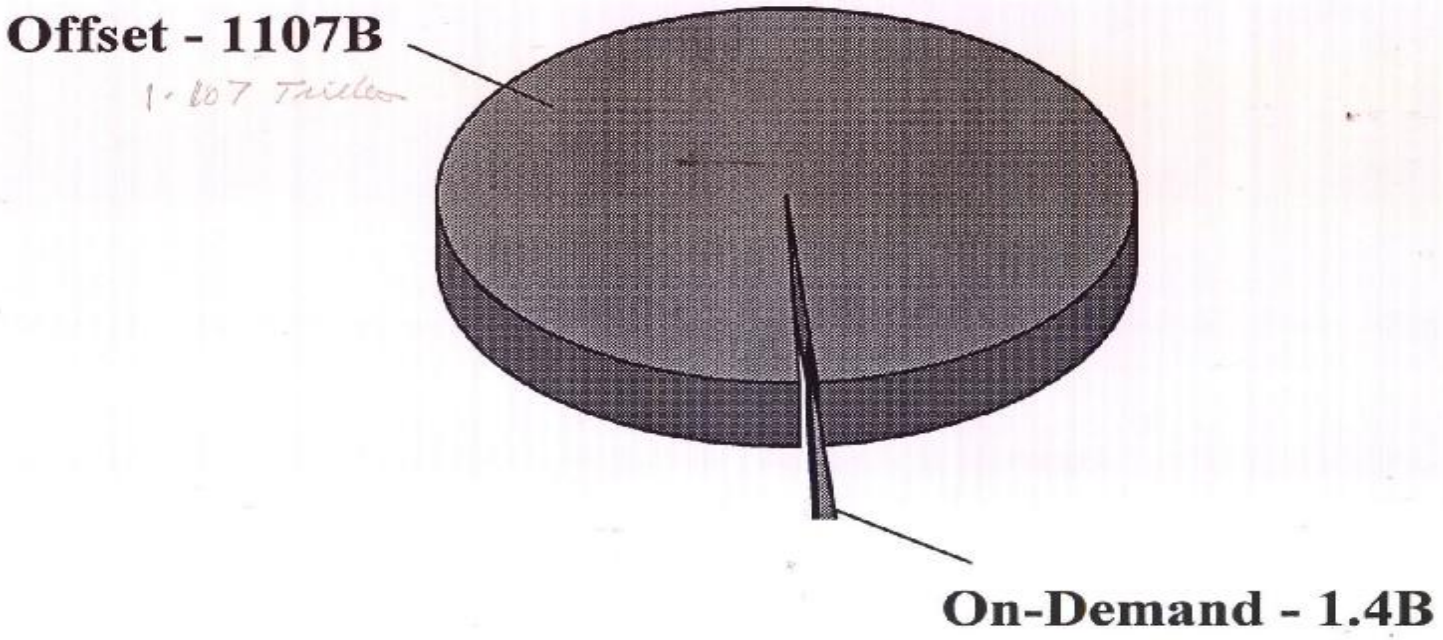
- Trade binders were not convinced that self-adjusting, zero make-ready equipment, with throughputs of 300 to 500 random-sized books per hour, was more cost-effective than in-line machinery running at higher speeds, but with long setup times for every format change.

How much have things changed in the past 13 years can be best demonstrated by the following slides:

Market Definition

The Potential for New Printing Opportunities

Book Printing - Billions of Pages (1993)



What the experts are saying

Approximate number of offset pages in the Book and Manual Markets for North America and Western Europe is 1.2 trillion pages. The digital opportunity in this number is currently 100 billion pages. Over 90% of this potential is black and white pages.

(John Conley, Vice President XEROX CORPORATION)

By 2010 the total market for digital print worldwide will be over 100 billion dollars. Of that amount close to 5 billion dollars will be traditional books. Catalogs And Directories will account for approximately another 13 billion dollars of digital print in the same time frame. The major growth engine in this will be color. (This data is extrapolated from “The Future of Global markets for Digital Printing to 2015”)

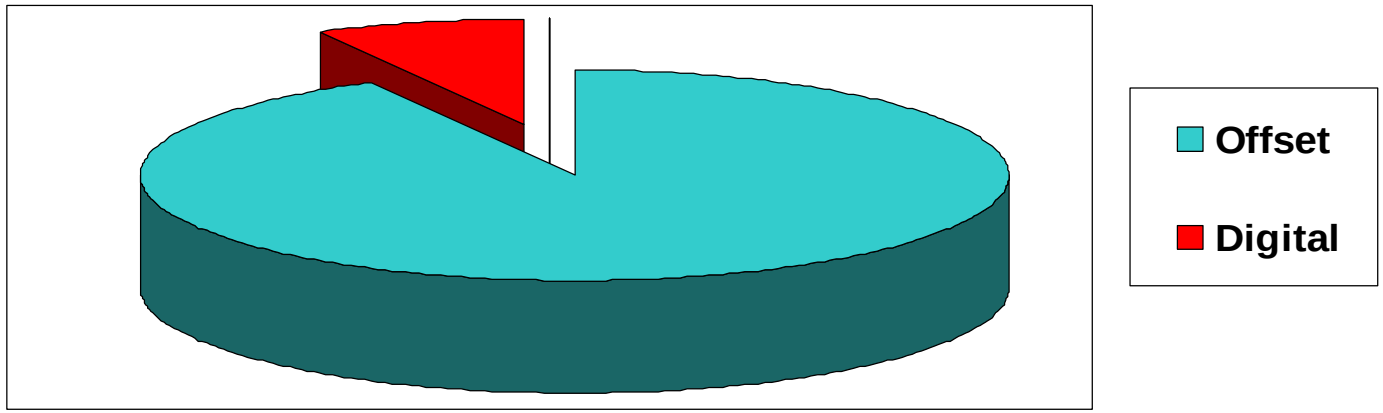
(Frank Romano)

According to the article "Short Runs Long Opportunities" in the January 2007 issue of "Digital Publishing Solutions", there will be 921 billion impressions in the production copying and digital printing market by 2010.

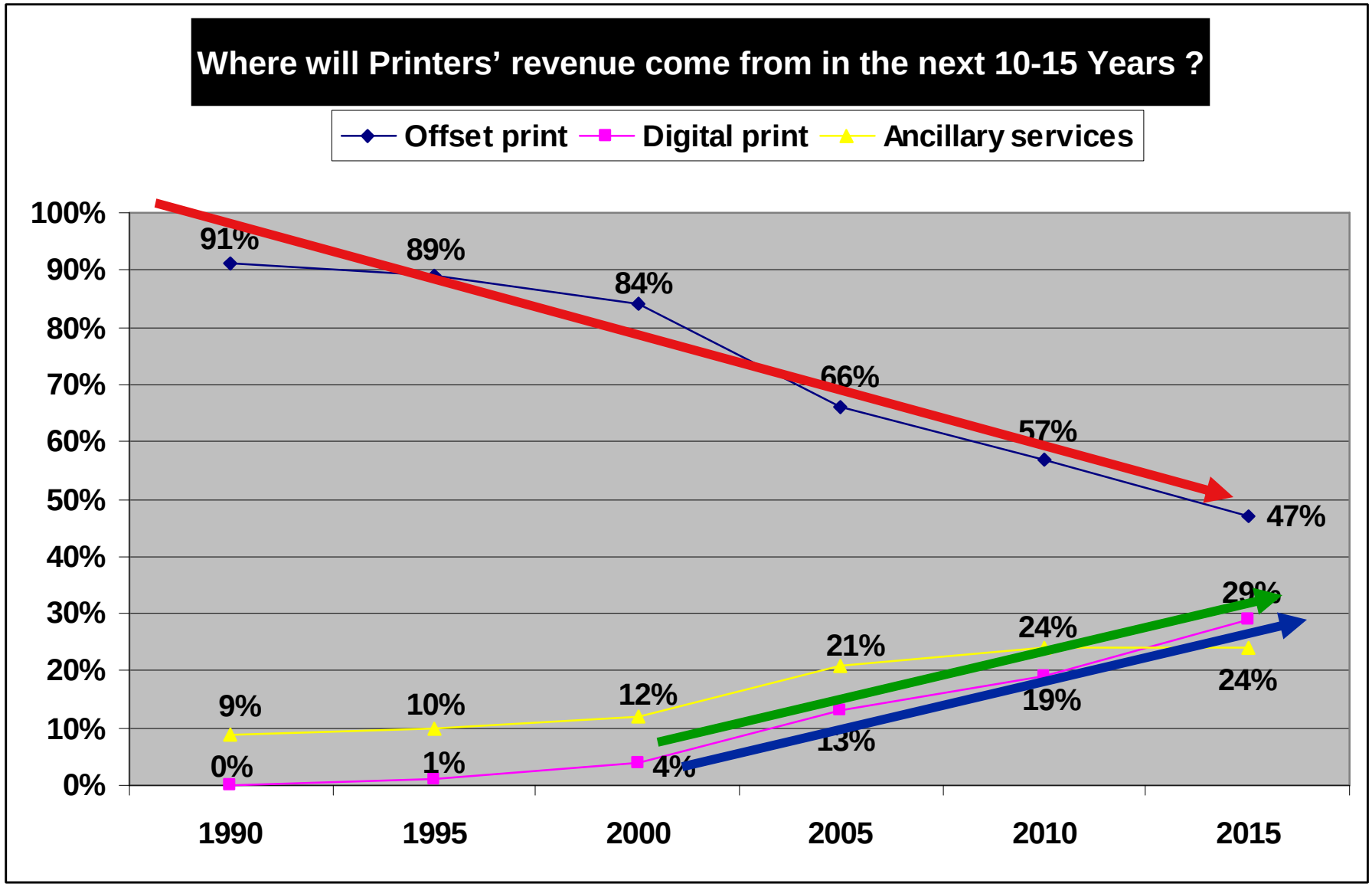
(Thomas Franklin)

The Potential for New Printing Opportunities (2007)

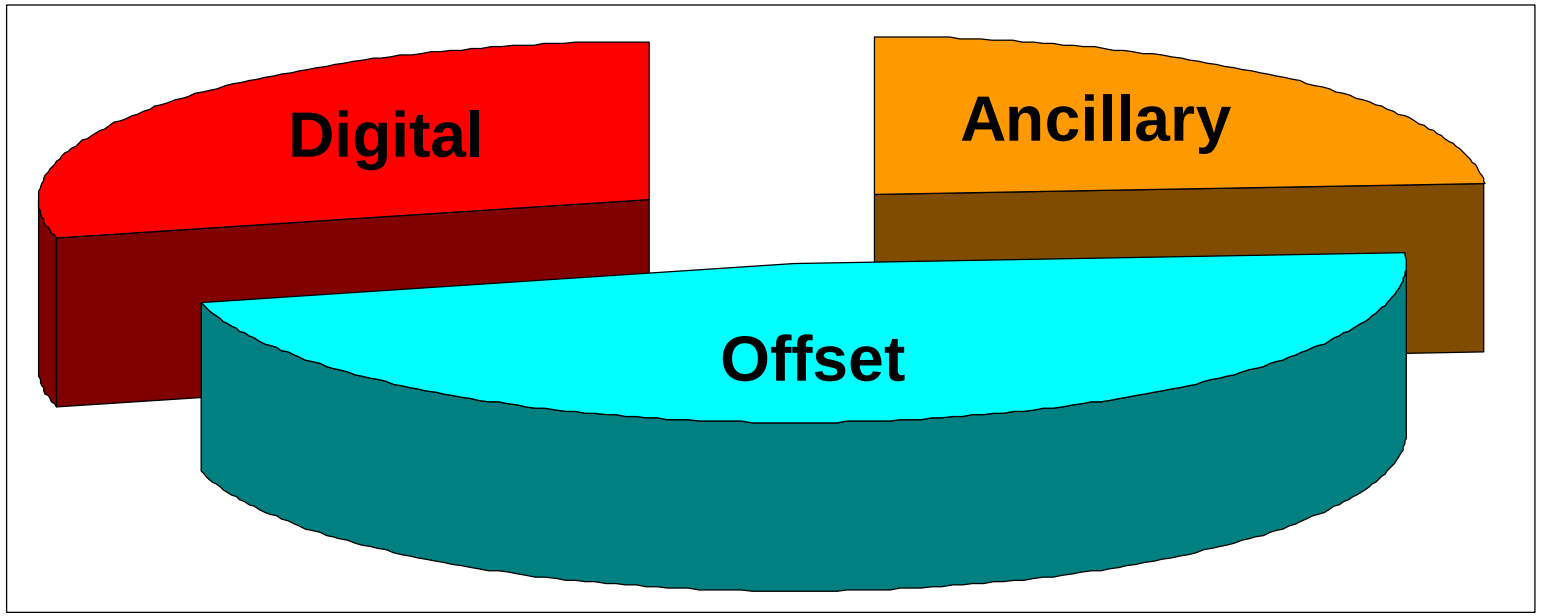
DIGITAL – Over 100 billion pages



OFFSET – Approx. 1.2 trillion pages


Where will Printers' revenue come from in the next 10-15 Years ?
Offset print
Digital print
Ancillary services
100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
1990
1995
2000
2005
2010
2015
91%
89%
84%
66%
57%
47%
9%
10%
12%
21%
24%
24%
0%
1%
4%
13%
19%
29%

Source of Printer's revenue by 2015



13 years ago **Kodak** was marketing their **LionHeart** and **AGFA** its **P400**. The **Xerox DocuTech** was outselling them both.

Today, there is a proliferation of new and more technologically advanced print engines as seen by this slide

1994

Kodak
LionHeart

XEROX
DocuTech

AGFA
P400

2007

hp invent
Indigo 5500

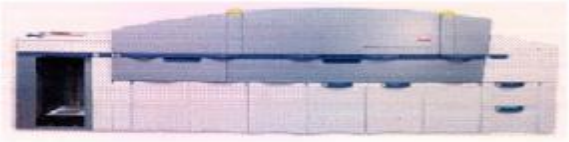
XEROX
iGen3

océ
VarioStream

PUNCH graphix
Xeicon 5000

IBM
InfoPrint

DELPHAX
CR2000



Kodak
NexPress 2100

AGFA
Dotrix Modular

Canon
Canon ImageRunner 110

So what do these figures tell us?

They tell us that the opportunities for diversification are enormous as evidenced by yesterday's very informative plant tour of Bridgeport National.

They also negate the often heard hype that

PRINT IS DEAD

PAPERLESS SOCIETY

The bridge was built **13** years ago, but not too many crossed it until years later. Today, with digital print engines getting better, faster and cheaper to run, many are now crossing it.

Hardcover On-Demand Book Manufacturing having taken **13** years to reach the status of maturity has certainly arrived and can now be deemed a **“Bar Mitzvah”.**

With the revolutionary
ULTRABIND™
paving the way, the
1994 bridge sign
would look today
something like this.

WELCOME TO THE DIGITAL REVOLUTION

YOU HAVE COME A LONG WAY BABY!

WITH THE ULTRABIND PAVING THE WAY, MEKATRONICS IS PROUD TO BE PART OF YOUR SUCCESS.

MEKATRONICS

Your single source for short run,
hardcover ON DEMAND binding machinery
with self-adjusting, zero make-ready equipment

Ideal, Versatile Machine for:

- Library Binding
- On-Demand Binding
- Short Run Edition Binding

Mekatronics has all of the machines required to make a hardcover book. Many were introduced some 50 years ago and are still in operation worldwide.

Let’s have a glimpse of those machines.

Making of the book block

Entry Level

MEKANOTCH™

Spine Notching

- Plays a key role in the adhesive binding technology.
- Creates a pattern of notches that increases the spine area to enhance linkage between paper and adhesive.

MEKABIND™

Double Fan Adhesive Binder

- The ideal machine for an **entry-level** hardcover book manufacturing.
- The system of choice for high quality durable books and rivals sewing for strength and flexibility.

Making of the book block

Advanced Level

ULTRABIND™ PLUS

In Line Adhesive Binder

- **Processes intermixed sizes of books by integrating**

- ***Spine Milling***
- ***Spine Notching***
- ***Double-Fan Gluing***
- ***Notch Filling***
- ***Backlining***

SPEED-NIP™

- Speeds up the process of compressing the swell or build-up in the binding edge.
- Yields a flat and square binding edge for improved quality of trimming & rounding & backing.

ROUNDER & BACKER

- Speeds up the critical process of shaping the spines of book blocks for better openability and durability.
- The only one of its kind that can adjust the path of the backing roller to conform to the convex curvature of the back.

HEADBAND-IT™

- Applies headbands to the head and tail of books simultaneously.
- Operates in both single-copy and multiple-copy modes.

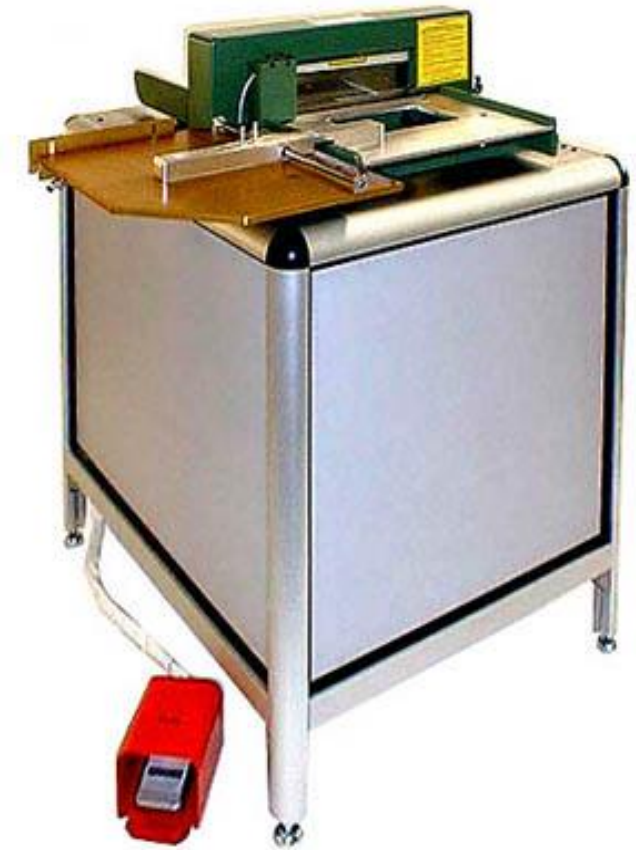
We offer the following array of machines for

Entry Level

Manual Case Making

MIGHTY-CUT™

- A heavy duty pneumatic board cutter.
- Quickly gauges books to cut accurately two pieces of 0.125 caliper binder's board or similar material.
- Equipped with an adjustable gauge for cutting multiple pieces of spine strips.

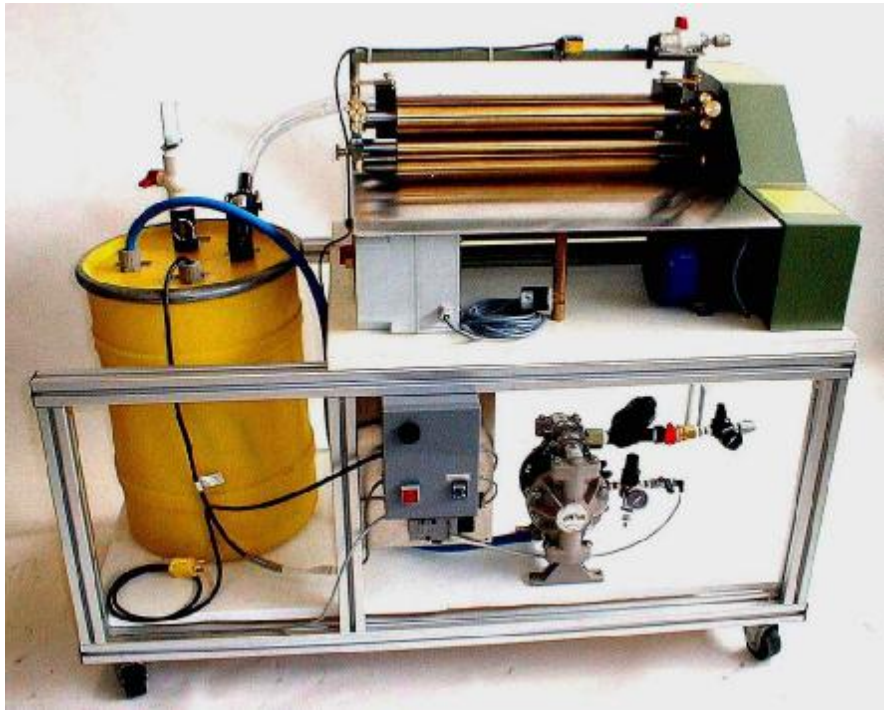


TOPSIDE GLUER

- Applies water based dextrin or resin adhesive onto nearly any item from paper to boards stock up to ½” thick.
- This variable speed machine glues the top instead of the bottom to offer greater handling flexibility.

TOPSIDE GLUER
WITH A RE-CIRCULATING PUMP SYSTEM

- An automatic glue-fill system in which a pump feeds glue from a storage drum to the topside gluer for an uninterrupted flow of glue.

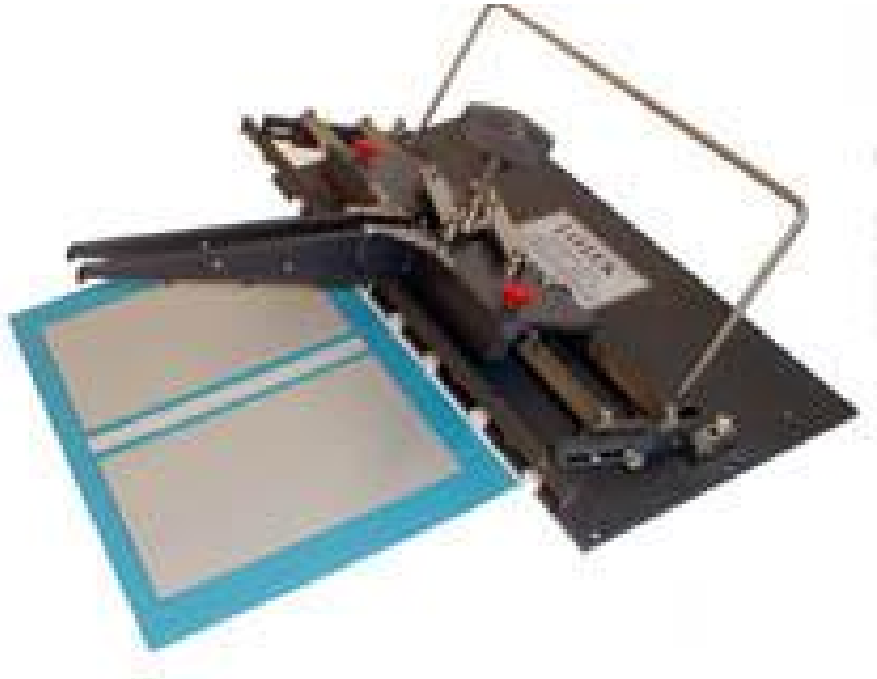


AUTOGLUER™

- A standalone pile feeder integrated with a topside gluer.
- Used where gluing of the cover material is done manually.
- An accessory to semi-automatic case making machines.

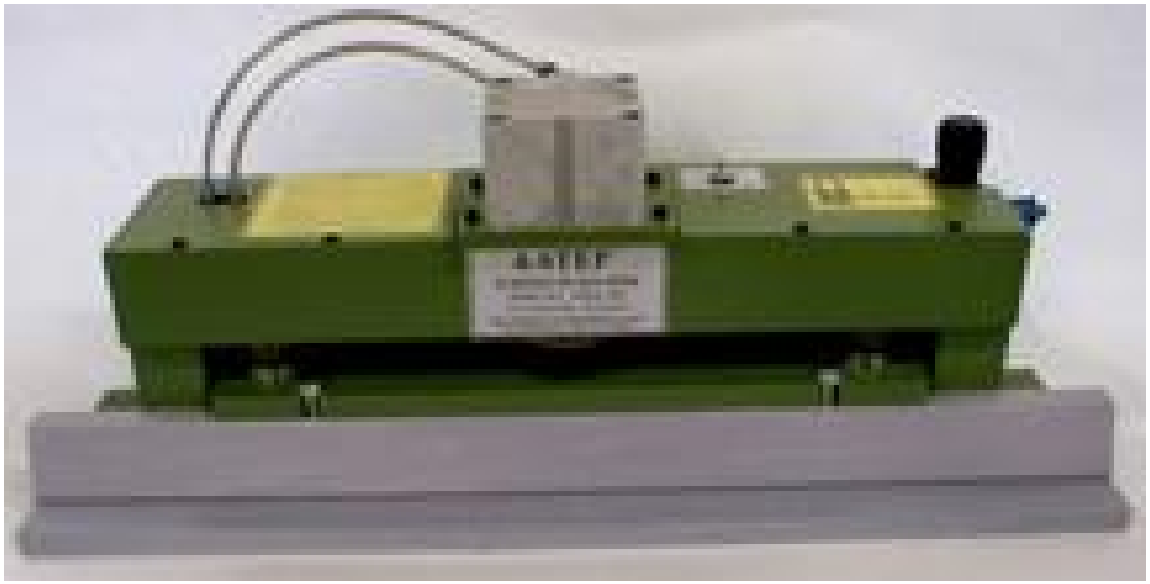
LOTEK™
Case Making Gauge

An easy to use tool that de-skills the assembly of board and inlay onto glued cover material to ensure accuracy and product quality.



4-STEP™
Turning-In Machine

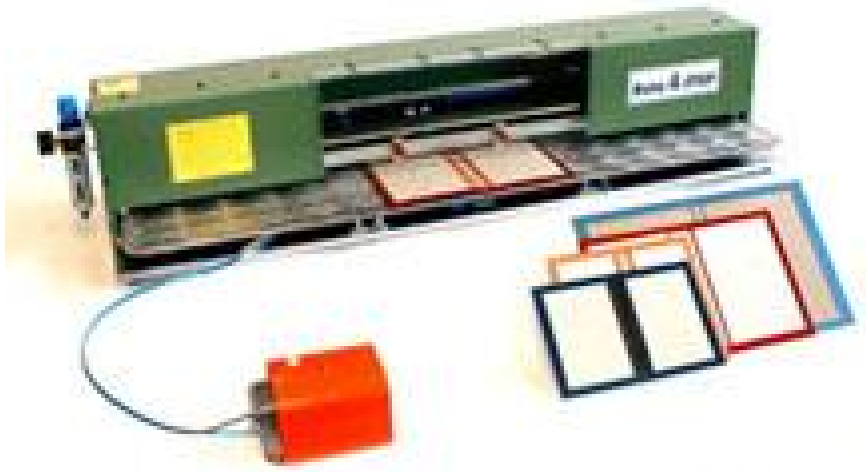
An all-pneumatic manual machine that speeds up the turning-in process.



AUTO 4-STEP™

A semi-automatic all-pneumatic Turning-In Machine.

- **Eliminates the dexterity and force that must be exerted to snugly push the folded turned-in portion under the pressing bar when using a manual machine.**
- **Eliminates the muscle fatigue or wrist pain that can result in injury from repetitive use of manual machine.**



ROTARY PRESS

- Presses the finished case following the turning-in operation.
- Flexible or rigid materials up to 1.2” thick receive uniform pressure, removing trapped air and assuring lamination.

For a fully automatic case making operation we offer

EZ-CUT™

- **One-of-a-kind, fully automatic, unattended robot for cutting cover materials.**
- **Four vertical carousels storing up to 24 rolls of material in 24 different colors.**
- **A cutting system that travels between carousels and automatically cuts material to size.**

MEK-A-CASE™

Case Making

- The only machine of its kind in the world that:
- Achieves total manufacturing flexibility in single-copy runs.
- Intermixed sizes that are randomly processed with absolutely zero set-up time sets this machine apart from everyone else.

For the finishing operations, we offer the following machines

VERSAMATIC™

Casing-In

- An all-pneumatic machine that produces a more durable product by uniquely applying excess glue in the joint area.
- Introduced in 1961 with a proven record of long life and excellent quality with many still in operation worldwide.

HYDROPRESS™

Building-In

- Two independent stations that can be operated alternately for increased throughput.
- Introduced in 1960 with a proven record of long life and excellent quality with many still in operation worldwide.

CENTURION™

Building-In

- Self-adjusting semi-automatic machine.
- A fully unattended operation when linked to the output of a casing-in machine.

By way of information, last year we completed the installation of our full line of equipment for hardcover On-Demand binding at Mercury Print Productions in Rochester, NY, who made American Printer magazine's list as one of the 50 fastest growing print companies in the USA.


Rounding & Backing
Headband Application
Casing-In
Twin-Station Building-In
In-Line Adhesive Binder
SHORT RUN, HARDCOVER ON-DEMAND BINDING AT MERCURY PRINT PRODUCTION, ROCHESTER, NY
(One of USA's Fastest Growing Print Comapnies-American Print Magazine)

Needless to say that we at

are delighted to be in this new emerging market.

THANK YOU