



**2000**

# **Technology Trends**

*presented by*

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# Graphic Arts Technical Foundation

- 76 yr. Old charitable Foundation
- 70 employees
- \$8,000,000 budget
- 15,000 members
- Consolidated with PIA
- 40,000 square foot facility -Pittsburgh PA
- \$25 Million in Equipment

# Overall Trends

- Offset revenue growth is moderate
- Number of plants is decreasing
- Shorter deadlines
- Emphasis on personalization
- Increasing use of color
- Failed concept of a paperless office
- Increasing automation in process
- Tight labor market

# U.S. Printing Economy

- **Gross Domestic Product Growth 3.8%(98-3.4%)**
- **Print market - \$157 billion in '99 (up 6.6%)**
- **Print Markets: High growth**
  - *Marketing/Promotional*
  - *Convenience/quick print*
  - *Direct Mail*
- **Low growth — Book printing**
  - *Manuals/documents*
  - *Business forms*

# U.S. Printing Economy

- 98,000 jobs added in '99 (22,000 in '98)
- Average plant size is 24 employees (21 in '98)
- 131 mergers & acquisitions of companies over \$5 million in '99 (188 in '98)
- 94% of printers say recruiting is their single biggest problem
- 22,000+ openings in the industry
- 49,400 plants in '99 (51,300 in '98)
- 15% of paper and printing purchased in 2003 using E-commerce

# Competing Technologies

			<b>1997</b>	<b>2006</b>
<b>Offset lithography</b>			65%	49%
<b>Digital printing</b>			20%	35%
<b>Gravure</b>			6%	4%
<b>Flexography</b>			5%	4%
<b>Other</b>			4%	8%

# On-Demand Digital Printing

- 35% of total output by 2006
- 23,900 units in 1999
- Wider widths
- Speed increasing
- Variable printing solutions on new models
- Color is going to transaction documents
- Consumable cost decreasing 15%
- 7% of printers have digital printing

# Digital presses

- 1,400 DI presses in operation worldwide
- 13 New direct imaging presses
- Presstek technology on 8 presses, Creo (3), Screen (1) and Scitex (1)
- Komori (Creo) concept press is 40”
- Xerox is selling PAX DI 2up unit
- Man Roland Dico Web uses coatings on cylinders

# Digital Proofing

- 17,000 units in use
- Printers using digital proof
  - 39% Continuous tone (up from 34%)
  - 22% Halftone
- Ink jet technology in small formats
- HP aggressively pursuing market
- Polaroid automated 5 color proofing system
- Price/performance is improving from all proofing suppliers

# Digital Photography

- Over 40 models available
- Good ones still pricey (\$25K)
- 14% of printers have capability (9% in 98)
- Ideal for catalog work
- New cabling (up to 100 ft.)
- Memory is limiting factor
- HP and Indigo featured camera to press printing at Drupa

# Color Scanning

- Desktop scanning improving
- Printers using scanning
  - *Desktop flatbed* 76%
  - *Desktop drum* 11%
  - *High end drum* 18%
- Acceptable quality between \$20k- \$90k
- Cost continues to come down
- Software allows correction at device
- Operator training important

# Computer to Plate

- 4,000 installations in 1999
- Seven new blue diode setters at Drupa
- Process less plates for longer runs (50K+)
- Imaging time is faster (15-30 plates hour)
- Prices are coming down (some are \$130K)
- Printers experience 50% throughput savings
- ROI at 35 months
- 83% will buy another unit

# Sheetfed Presses

- 190,000 sheetfed presses in U.S.
- Automatic plate loading standard (15% have)
- Automatic ink dispensing and ink key zone setting controls
- Perfecting and automatic blanket washing
- CIP3 Integrated quality and data control
- Impressions between 14 -16K per hour
- 10 & 12 color models have arrived
- 7% of printers have waterless

# STANDARDS

- SWOP & SNAP are established
- GRACol is being developed for Sheetfed
- GATF is supporting standards development
- Print Attributes Study
- Print Tests at GATF
- White paper on standards

# Web Presses

- 80,000 presses - age 15 yr.
- Speeds up to 3,000 ft. minute
- Emphasis on faster make ready
- Closed loop thermal emission control system
- Auto plate changing has arrived
- Auto blanket washing standard
- Closed loop color control is here
- Bindery is bottleneck
- 1% have waterless

# Summary

- U.S. Printing economy is strong
- Offset growth moderate
- Plants are decreasing
- Capacity will increase through productivity
- Digital printing challenges litho
- Shortage of qualified employees
- E-commerce is entering market

# Summary

- Digital proofing is maturing
- Digital presses are solutions for shorter runs and faster turnarounds
- Digital photography is growing in use
- Desktop scanning has improved
- Computer to plate is evolving
- Sheetfed presses are automated and faster
- Web presses are reducing make ready

# GATF Research

- Digital proof repeatability
- Digital color print attributes
- ROI on computer to plate
- Productivity benchmark study
- Color management print trial
- Print attributes study
- Training survey

# GATF Benefits

- GATFWORLD
- Technical service hot line
- Technical training & conferences
- Technical publications
- Quality control devices
- Research & Technology reports
- Technology forecast
- Inter Tech technology awards
- GAIN - Web site

# Intertech Technology Awards

- Collabria Print Commerce
- CreoScitex digital offset press
- Fuji laser beam technology
- Heidelberg Image Control
- Kodak Approval Recipe Color Software
- Mitsubishi Digital Register analysis
- Preview Systems Packaging Proofer
- Sinar Bron Sinarback digital camera

**Thanks for Listening!**