



 HarperCollins *Publishers*

THE DIGITAL PRINT REVOLUTION

MIKE LEVAGGI

GROUP PRODUCTION DIRECTOR

BACKGROUND

- PUBLISHERS WORLD IS CHANGING....
- TECHNOLOGY IMPROVING
- PRINTERS INVESTING
- ACADEMIC PUBLISHERS HAVE SHOWN WHAT IS POSSIBLE

TRENDS IN BOOK PUBLISHING

MEGATRENDS

INCREASING
NUMBER OF TITLES

DIGITAL GROWTH -
CONNECTED LIFE STYLES

E-BOOKS & READERS

NEW MARKET PLAYERS

EFFECTS

DECREASING
RUN LENGTH

HIGH STOCKING &
WAREHOUSING COST

LARGE FRONT LISTS -
EXTENSIVE BACK LISTS

GROWING
E-COMMERCE

STRATEGIC DIRECTIONS

'LONG TAIL'/
BACKLIST MANAGEMENT

SELF PUBLISHING

PROCESS OPTIMIZATION

CO-EXISTENCE
PRINTED & E-BOOKS

DIGITAL BUSINESS MODELS

SHORT RUNS

LIFECYCLE
MANAGEMENT

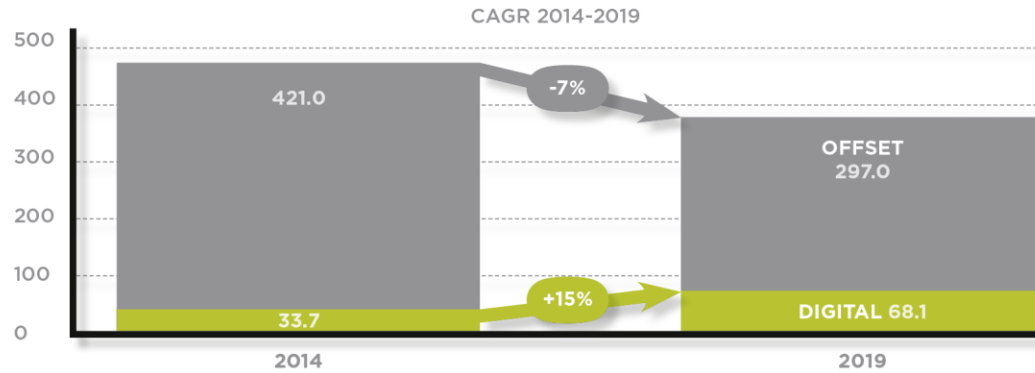
ON DEMAND

DYNAMIC
PUBLISHING

DIGITAL BOOK PRINTING TRENDS WESTERN EUROPE

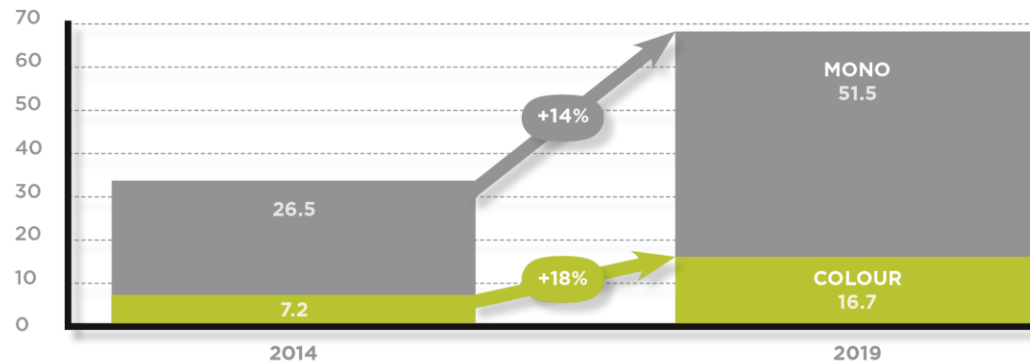
BILLION A4 BOOK PAGES

Western Europe total book pages billion



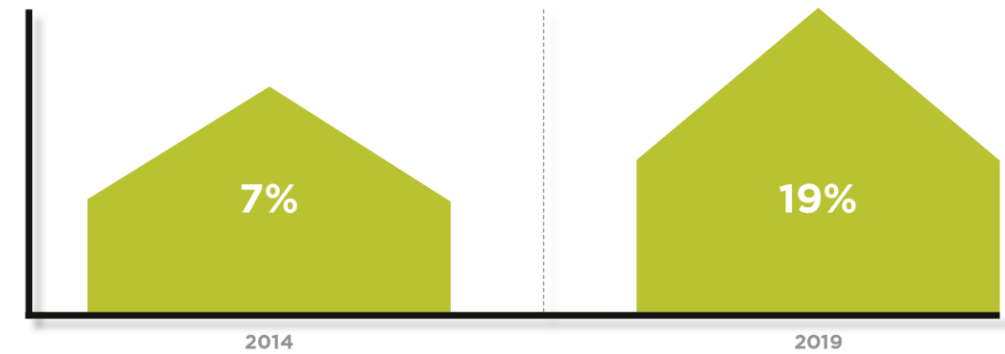
DIGITAL MONOCHROME AND COLOR VOLUME

Western Europe total digital book pages billion



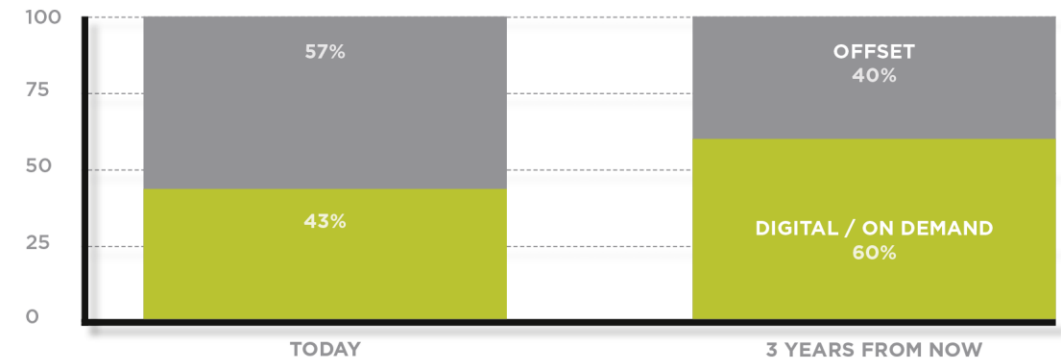
(source: Caslon 2014)

DIGITALLY PRINTED BOOK VOLUME IN % OF TOTAL BOOK VOLUME



BOOK PRINTING PROCESSES: CURRENT VS. FUTURE APPROACHES (US DATA)

% of new releases printed digitally or offset



(source: InfoTrends: Emerging Digital Media Adoption in Book Publishing)

DIGITAL PRINT – PUBLISHERS

PRINT ON DEMAND – “INVENTORY FREE”

- Growing fast – nothing has to go OP
- Generally has been toner based (this is changing)
- Quality and appearance improving for trade mono
- Print to order, down to one copy. (“Book of One”)
- Generally automated using flags in order capture system to trigger electronic order to printer
- May be supplied direct to customer or via distributor warehouse
- At HCUK equipment installed in warehouse to make supply chain seamless

SHORT PRINT RUN

- Print Runs getting shorter
- More small orders driving admin issues at both printer and publisher, increased changeover time puts pressure on conventional printing, unit costs/prices increase
- Shorter runs moving to inkjet printing where possible
- Trade and Education mono, Education colour already working well, Trade colour next...
- Printed to replenish stock
- Workflows vary, some using Auto Stock Replenishment models

DIGITAL PRINT PRINTERS AND MANUFACTURERS

UK PRINTERS ARE TOOLING UP

- Major investments over the last few years in a range of digital print technologies
- Recent investment dominated by high speed, reel fed, inkjet capability for mono and colour

INKJET QUALITY AND COSTS IMPROVING FAST

- Enabling Work to come back “on-shore” to take advantage of shorter lead-times.
- Reprints being done digitally becoming the norm

EQUIPMENT SUPPLIERS WORKING ON HIGHER RESOLUTION

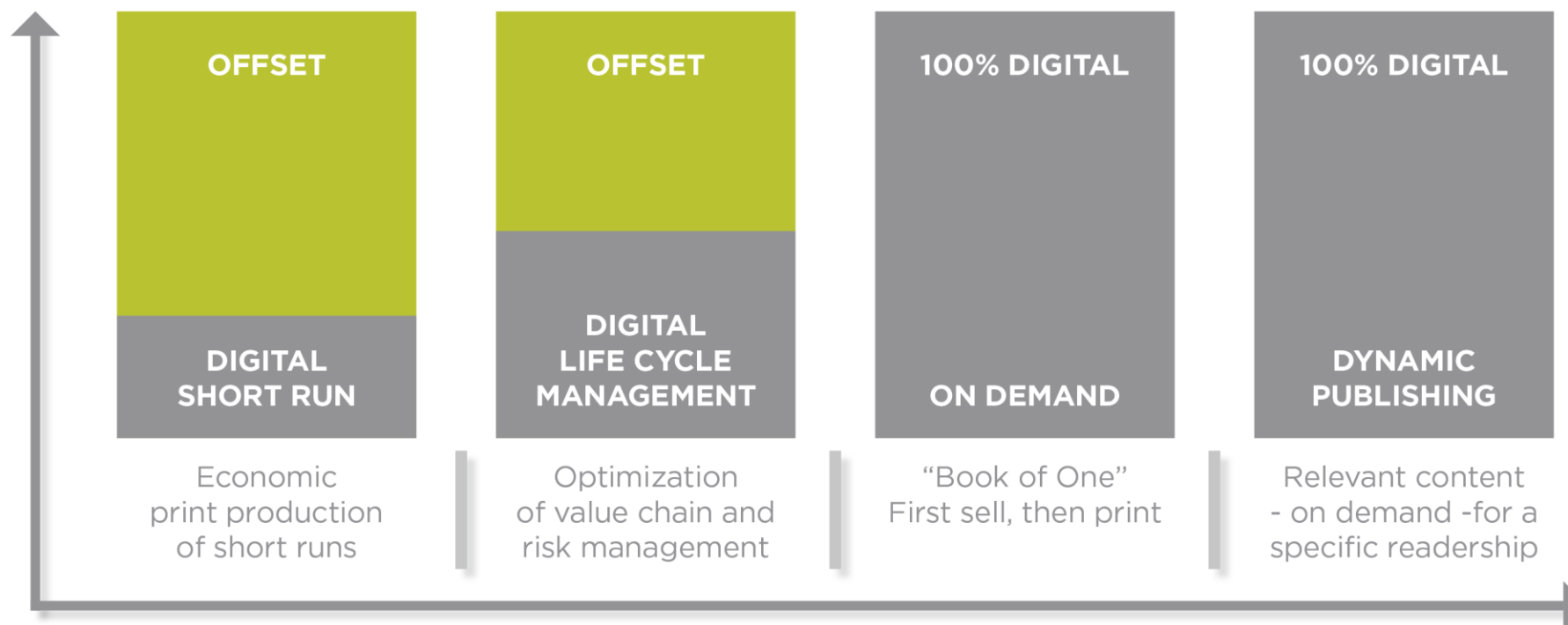
- Trade Quality beginning to look feasible

DIGITAL PRINTING - OPPORTUNITIES

TIME	COST	VALUE	ECO
<p>Digital increases flexibility and minimises turn-around times</p> <ul style="list-style-type: none"> • Just in time production • Late stage changes or customisation • Shorter lead times • Faster campaign execution • Web to print • Synchronisation of online & print content <p>Canon</p>	<p>Digital accelerates cash-flows</p> <ul style="list-style-type: none"> • Cost-effective short and medium runs • On demand production • Reduced waste & obsolescence • Inventory reduction/elimination • Workflow & process automation 	<p>Digital adds value</p> <ul style="list-style-type: none"> • Versioning (Demographic, geographic, Channels) • Personalisation (Unique designs and/or content, customer interaction, eg QR-codes) • Mass customisation • Effective production of the test runs • Brand protection (security features, e.g. coding/marketing) 	<p>Digital printing minimises the carbon footprint</p> <ul style="list-style-type: none"> • Less waste and obsolescence • No need for printing plates and chemicals • De-inkable Océ pigment inks • Less transportation cost & emission by de-centralised printing at place of demand

DIGITAL BOOK PRINTING - BUSINESS MODELS

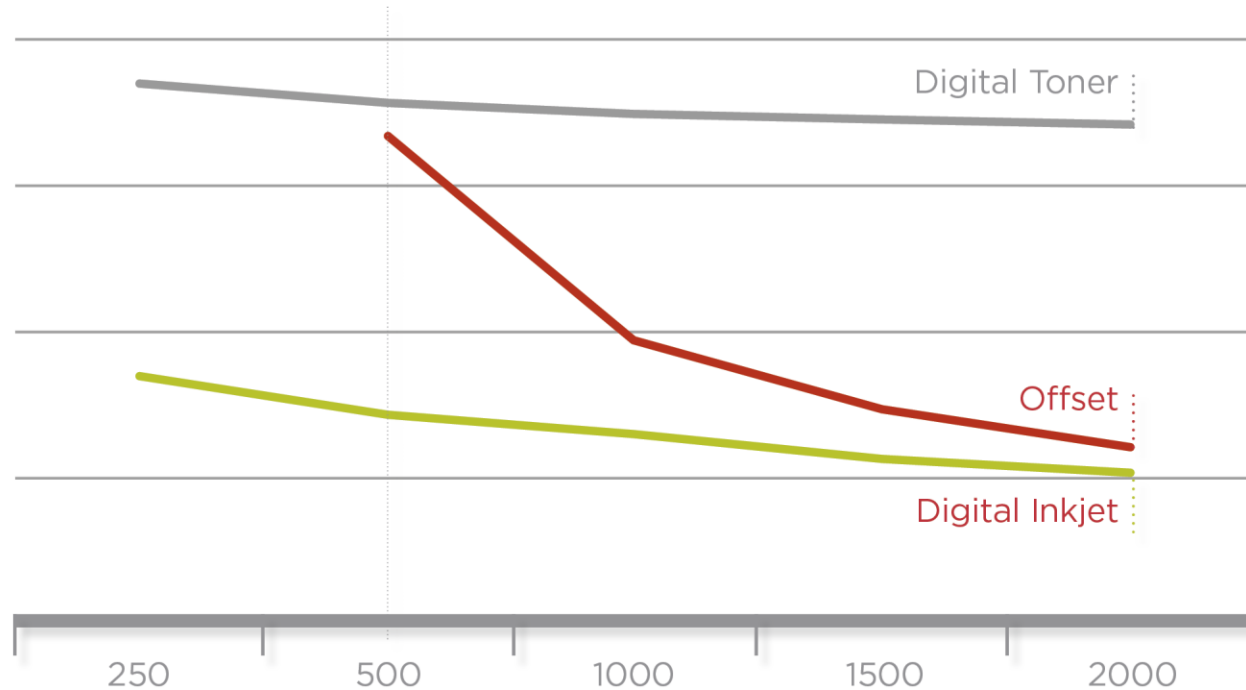
SHARE OF DIGITAL PRINT



Canon

SHORT RUN - COST COMPARISON GUIDELINE

EXAMPLE: HARDCOVER, CMYK, THREAD STITCHED, 240 PAGES, 190mm X 270mm



- Breakeven **Digital Toner** to **Offset** about 500 copies
- **Digital Inkjet** closes the gap between **Digital Toner** and **Offset**

Canon

TECHNICAL DEVELOPMENTS

TONER TECHNOLOGY AND COST CONTINUES TO IMPROVE

- Enormous progress since the 1993 launch of the Indigo (liquid toner)

INKJET DEVELOPMENTS THE MAJOR DRIVER OF CHANGE

- Academic, Education and now increasingly Trade moving to inkjet

SUPPLIERS INVESTMENTS

- New and faster continuous feed machines being launched
- More high speed cut sheet inkjet machines
- New papers specially designed for Inkjet
- Developments in finishing equipment especially for Inkjet

INKJET FOR COLOUR TRADE - WHEN NOT IF ...

INKJET COLOUR PRINT QUALITY AT 600 OR 1200DPI NOW AS GOOD AS - IF NOT BETTER THAN - OFFSET

“Digital printing can result in better quality than litho.” Elsevier

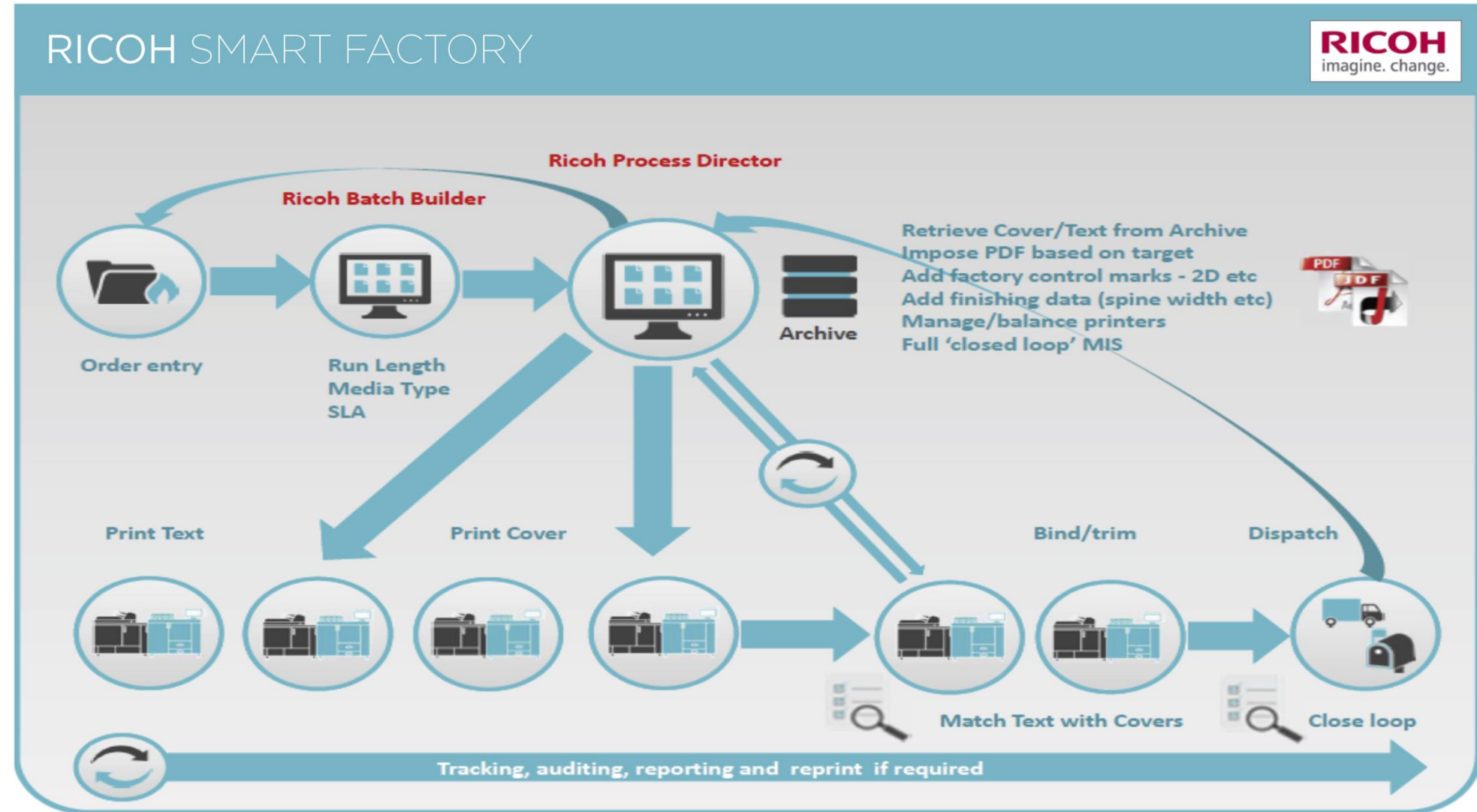
“In some cases, the photos pop better [with inkjet]. It’s fair to say that 4-color inkjet is ready for primetime.” Macmillan

“We’ve put the quality issue to bed [during this symposium], for the most part.” Wolters-Kluwer



Comments from recent Ricoh Executive Publishing Symposium, USA

WHEN NOT IF ...



HCP CASE STUDY

Digital Printing in the Warehouse

PRINT ON DEMAND AT HC GLASGOW

RR Donnelley and HarperCollins launched the new print-on-demand centre in July 2012. Located in the HC Distribution centre at Bishopbriggs, the production facility integrates with the on-site distribution operations. The benefits of an on-site production centre are plain to see:

- 1) Finished POD and Short Run orders are produced for HarperCollins' Imprints for distribution, similar to traditionally produced orders, except without the storage costs implications and without any wasteful overruns;
- 2) POD and Short Run can be integrated with other outgoing orders, and because production turnaround is so quick there is a much reduced waiting period for HarperCollins customers



WHERE ARE WE HEADING?

WHAT NEXT...

WHAT NEXT?

- Technology will continue to improve driving cost and quality benefits
- Pressure on publishers will drive more interest in change in all sectors
- More titles to be kept available without increasing inventory
- Volume will migrate to digital printing
- More printing will be close to required markets
- Workflows will develop rapidly in all parts of the supply chain
- Pace of change going to be increased
- Biggest change since.....

THANK YOU

With thanks to Ricoh, Canon, CPI, Clays and Interquest for contributions and source material.