Print Market Overview: Employment – Markets – Technology

Prepared by Nick Waite, Head of Market Research, Smithers Pira
Agenda

- Introduction – Smithers Pira print research
- EU commercial printing industry
  - Printer demographics (employment, companies)
  - Impact of automation
- EU print market trends
  - Market overview
  - Print product/process trends
  - Consumables & equipment
- Digital printing developments
- Outlook
Who we are

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Global Network
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To serve a
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Paper

Packaging

Food Contact

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Smithers Pira

- 50 market reports on paper, print, packaging & other industrial areas each year
- Bespoke multi-client & single-client market research and technical consultancy
- Producer of 20-30 industry conferences each year
- Journals & online database products
- Laboratories & package testing facilities
- Primary and secondary research, backed up by in-house technical consultants
- Global network of market research associates in Europe, Asia and the Americas
- Survey programs plus informal contacts with industry
- Wide range of secondary sources consulted
- Proprietary in-house print database and information centre
EU28 commercial printing industry – employment and enterprises, 2008-2014

Number of enterprises
Number of employees

Source: Eurostat/Smithers Pira estimates
Employment levels hit by combination of declining demand and rising automation

Declining print demand since 2007/8 leading to business failures and redundancies

Increasing automation leading to greater efficiencies throughout the print business, including in both administration and print production. Key areas include online printing portals (e.g. VistaPrint), photobook manufacturing, self-publishing – and also standard jobbing print items

Companies increasingly adopting workflow systems that gang jobs together, often employing one makeready for multiple jobs. Prepress becoming largely automated, with plates automatically generated by workflow system. A variety of jobs can be bundled on a single plate – possibly 6 business card jobs or even 150

Print production process also becoming increasingly automated, with equipment taking instruction from admin side, normally enabled through JDF (job description format) from original order. Changeovers on modern sheetfed presses now taking less than 10 minutes for whole makeready, with minimal manual intervention required
SaxoPrint

German sheetfed printer with a presence across Europe – part of growing German trend of adopting web-to-print techniques, using large format sheetfed litho to print standard products, and ganging jobs together to share the cost (and time) of make-readies across several jobs. Standard paper stocks and process colour printing make sheetfed competitive.

- Product lines encompass advertising print, packaging, commercial print and publication print (e.g. magazines)
- SaxoPrint business model based on providing high quality, fast turnaround and environmentally friendly production; has expanded over the years to become very cost efficient though economies of scale
- Recent Speedmaster XL acquisitions from Heidelberg providing efficiency at short runs
Some signs of stabilization in commercial printing industry output after protracted period of decline, but revenues down again in 2014 according to Eurostat data

- EU27 commercial printing output, 2008: €61.3 billion
- Sharp downturn in output in 2009 (down 12%) followed by more stable conditions in 2010/11/12
- Annual € declines of 2.2% per annum, 2009-2014
- Overall decline of more than 5% in revenues in 2014 despite some more positive indicators elsewhere
EU27 commercial printing industry output, 2008-2014 (€ million)

Source: Eurostat
Other data points to stronger performance, with decline 1.0-1.5% in P&W paper demand in 2014

EU28 printing & writing paper consumption by type, 2007-14

<table>
<thead>
<tr>
<th>000 tonnes</th>
<th>Eurostat data</th>
<th>CEPI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Newsprint</td>
<td>11,098</td>
<td>9,186</td>
</tr>
<tr>
<td>Uncoated woodfree</td>
<td>11,259</td>
<td>9,654</td>
</tr>
<tr>
<td>Uncoated mechanical</td>
<td>5,503</td>
<td>4,965</td>
</tr>
<tr>
<td>Coated woodfree</td>
<td>5,377</td>
<td>4,257</td>
</tr>
<tr>
<td>Coated mechanical</td>
<td>9,082</td>
<td>6,246</td>
</tr>
<tr>
<td>Total</td>
<td>42,319</td>
<td>34,307</td>
</tr>
</tbody>
</table>

Source: Eurostat/CEPI
Printing ink demand down just 0.5% in 2014

Source: Eurostat

EU28 printing inks demand, 2007-14

<table>
<thead>
<tr>
<th></th>
<th>2007</th>
<th>2009</th>
<th>2011</th>
<th>2013</th>
<th>2014 CAGR 07/14</th>
<th>% C, 13-14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Black printing inks</td>
<td>214</td>
<td>176</td>
<td>167</td>
<td>161</td>
<td>-4.3</td>
<td>-2.5</td>
</tr>
<tr>
<td>Other printing inks</td>
<td>1,039</td>
<td>886</td>
<td>834</td>
<td>809</td>
<td>-3.5</td>
<td>0.0</td>
</tr>
<tr>
<td>Total</td>
<td>1,253</td>
<td>1,062</td>
<td>1,001</td>
<td>970</td>
<td>-3.6</td>
<td>-0.5</td>
</tr>
</tbody>
</table>
Smithers Pira view

- Currently finalising global figures for 2014
- Preliminary view – European printing & packaging output down 0.3% to €165 billion
  - Packaging & labels up 2.0% to €76 billion
  - Graphic print down 2.3% to €89 billion
- Trends in EU28 similar to Europe as a whole – no growth in Russian printing revenues in 2014

Note: constant price values show market data at 2013 prices, removing impact of inflation and exchange rate fluctuations from one year to the next

Source: Smithers Pira
European Printing & Printed Packaging Output, 2009-2019f

Source: Smithers Pira
### European Printing & Printed Packaging Output by Print Product, 2013-2019f (€ million, current prices & exchange rates)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Books</td>
<td>6.77</td>
<td>6.43</td>
<td>5.25</td>
</tr>
<tr>
<td>Magazines</td>
<td>11.09</td>
<td>10.90</td>
<td>10.04</td>
</tr>
<tr>
<td>Newspapers</td>
<td>5.77</td>
<td>5.42</td>
<td>4.20</td>
</tr>
<tr>
<td>Advertising</td>
<td>24.65</td>
<td>24.35</td>
<td>23.90</td>
</tr>
<tr>
<td>Catalogues</td>
<td>5.21</td>
<td>5.00</td>
<td>4.16</td>
</tr>
<tr>
<td>Directories</td>
<td>3.18</td>
<td>3.02</td>
<td>2.36</td>
</tr>
<tr>
<td>Security</td>
<td>1.39</td>
<td>1.39</td>
<td>1.38</td>
</tr>
<tr>
<td>Transactional</td>
<td>3.20</td>
<td>3.28</td>
<td>4.12</td>
</tr>
<tr>
<td>Other commercial</td>
<td>29.66</td>
<td>29.08</td>
<td>28.38</td>
</tr>
<tr>
<td>Packaging</td>
<td>67.60</td>
<td>68.90</td>
<td>78.91</td>
</tr>
<tr>
<td>Labels</td>
<td>6.72</td>
<td>6.92</td>
<td>8.26</td>
</tr>
<tr>
<td>Total</td>
<td>165.24</td>
<td>164.69</td>
<td>170.96</td>
</tr>
</tbody>
</table>

Source: Smithers Pira
Newspapers

European mkt, 2014: €5.42bn

-6.1%, 2014p

-5.0% p.a., 2019f

European newspaper advertising expenditure, 2009-2013 (€ billion)

Source: Smithers Pira

Source: WAN/IFRA
Magazines

European market, 2014: €10.9bn

-1.7%, 2014p

-1.6% p.a., 2019f

Source: Smithers Pira

European magazine advertising expenditure, 2007-2014 (€ billion)

Source: World Magazine Trends
### EU 27 book printing revenues by type, 2008-2014 (€ million)

<table>
<thead>
<tr>
<th>Type</th>
<th>2008</th>
<th>2014</th>
<th>% change, 2008-14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Books, total</td>
<td>6,561</td>
<td>5,292</td>
<td>-19.3</td>
</tr>
<tr>
<td>Books, brochures, pamphlets (excl. single sheets)</td>
<td>5,607</td>
<td>5,204</td>
<td>-7.2</td>
</tr>
<tr>
<td>Children's picture, etc. books</td>
<td>301</td>
<td>54</td>
<td>-82.0</td>
</tr>
<tr>
<td>Dictionaries &amp; encyclopaedias</td>
<td>537</td>
<td>22</td>
<td>-96.0</td>
</tr>
<tr>
<td>Map books, etc.</td>
<td>117</td>
<td>12</td>
<td>-89.9</td>
</tr>
</tbody>
</table>

*Source: Smithers Pira*
Non-EU and Chinese share of EU book imports, 2002-Q1 2015

Source: Eurostat/UN
Catalogues

European mkt, 2014: €4.99bn
-4.1%, 2014p
-3.6% p.a., 2019f

Source: Smithers Pira

EU 27 catalogue printing revenues by type, 2008-2014 (€ million)

Source: Eurostat
European mkt, 2014: €24.3bn
-1.2%, 2014p
-0.4% p.a., 2019f

Source: Smithers Pira
Other commercial print

European mkt, 2014: €36.8bn
-1.8%, 2014p
-0.3% p.a., 2019f

Source: Smithers Pira

Other European commercial printing output by type, 2014 (% share by value)

- Others 39%
- Photobooks 4%
- Directories 8%
- Info print 17%
- Business forms 3%
- Business ID 8%
- Coupons, etc. 2%
- Fin/legal 6%
- Manuals <1%
- Newsletters <1%
- Transactional 9%
- Security 4%
- Cheques <1%

Source: Smithers Pira
Packaging & labels

European mkt, 2014: €75.8bn
+2.0%, 2014p
+2.8% p.a., 2019f

Source: Smithers Pira

European package & label printing revenues by type, 2009-2014 (€ million)

Source: Smithers Pira

Source: Smithers Pira
European Printing Inks Consumption by Type, 2014 (% share by volume)

Sheetfed 12%
Coldset 19%
Heatset 12%
Gravure 22%
Flexo 25%
Letterpress 1%
Toner 5%
Inkjet 2%
Screen 2%
Letterpress 1%
Toner 5%
Inkjet 2%
Screen 2%

Total printing inks & colourants consumption: one million tonnes

Source: Smithers Pira
EU28 printing equipment sales by type, 2008-2014 (sold production, € million)

<table>
<thead>
<tr>
<th></th>
<th>2008</th>
<th>2009</th>
<th>2011</th>
<th>2013</th>
<th>2014 CAGR 08/14</th>
<th>%C, 13-14</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reel fed offset</td>
<td>2,008</td>
<td>1,106</td>
<td>523</td>
<td>521</td>
<td>364</td>
<td>-24.8</td>
</tr>
<tr>
<td>Other offset</td>
<td>2,515</td>
<td>1,157</td>
<td>1,800</td>
<td>1,291</td>
<td>1,500</td>
<td>-8.3</td>
</tr>
<tr>
<td>Flexographic</td>
<td>443</td>
<td>365</td>
<td>548</td>
<td>535</td>
<td>610</td>
<td>5.5</td>
</tr>
<tr>
<td>Reel fed letterpress</td>
<td>127</td>
<td>99</td>
<td>82</td>
<td>88</td>
<td>78</td>
<td>-7.8</td>
</tr>
<tr>
<td>Gravure</td>
<td>171</td>
<td>40*</td>
<td>138</td>
<td>161</td>
<td>165</td>
<td>-0.6</td>
</tr>
<tr>
<td>Other commercial printing equ’t.</td>
<td>1,010</td>
<td>864</td>
<td>1,590</td>
<td>1,711</td>
<td>1,641</td>
<td>8.4</td>
</tr>
<tr>
<td>Postpress equipment for books</td>
<td>717</td>
<td>419</td>
<td>416</td>
<td>363</td>
<td>355</td>
<td>-11.1</td>
</tr>
<tr>
<td>Press equipment</td>
<td>178</td>
<td>114</td>
<td>166</td>
<td>180</td>
<td>187</td>
<td>0.8</td>
</tr>
<tr>
<td>Total</td>
<td>7,169</td>
<td>4,164</td>
<td>5,262</td>
<td>4,850</td>
<td>4,901</td>
<td>-6.1</td>
</tr>
</tbody>
</table>

Note: *estimate, probably too low

Source: Eurostat
European Sales of Printing Equipment by Type, 2014 (% share by value)

Total sales of new printing equipment: €5.32 billion

Source: Smithers Pira
Digital printing

Digital printing equipment sales forecast to grow by 5% per annum in current terms over the next five years, from €1.47bn in 2014 to €1.91bn by 2019. Inkjet sales to reach €1.12bn

Digital share of printing output to rise from 14% in value terms to 20% between 2014 and 2019. Volume share to remain below 4%

Focus will remain on short and short-medium run length areas like signage, but also print-on-demand. Strong growth in digital across commercial printing areas, labels and books. Packaging will emerge as a key target area for development

Inkjet to take share from electrophotography in mono book printing; growth in electrophotography here likely to be more value-driven
Previously codenamed ‘Niagara’, the VarioPrint i300 is the first high-speed colour B3 sheetfed inkjet production print system, representing a new category of press.

- Features patented ink, print head and paper handling technology enabling it to print on a wide range of media, including uncoated, coated and inkjet treated paper.
- Incorporates ColorStream 3000 inkjet technology mono cut sheet VarioPrint 6000 series paper handling system, and PRISMA control platform.
- Aimed to take share from cut sheet digital presses as users develop new commercial print applications with the press, as well as from high speed inkjet lines.
Ricoh Pro™ VC60000

- New high-speed production printer from Ricoh
- Designed for high-quality printing on standard substrates, enabled by a priming station that allows standard offset papers to be printed, and an inkjet coating capability that provides protection and enhancement to the print
- VC60000 uses a new high viscosity, high pigment loading, water-based ink system, drying rapidly at the surface of a primed paper leading to very smooth results.
HP High-speed Inkjet Corrugated Packaging

New 2.8m wide T1110 corrugated machine developed in conjunction with KBA, with a speed of 183m per minute, equating to over 30,000 square metres per hour – the most productive of any digital printing device.
LANDA S10 Nanographic Printing® Press

- Deliveries of first, highly-anticipated Landa line set for next year
- B1 format press targeted principally at cartons and general commercial printing jobs
- Claimed to have lowest consumable cost of any digital printing machine – against sheetfed litho, it should be competitive up to 5-7,000 x B1 prints or around 30,000 boxes
Thank you for your attention!

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