Consolidation in the Corrugated Industry

An Independent View

Steve Young
President, AICC
Everybody has an Agenda

- Overview/Who is AICC?
- Current state of the industry
- Corrugated trends
  - Shipments
  - Consolidation
- Opportunities
  - Market segments: what’s hot, what’s not
  - Sustainability
  - Retail Ready Packaging
  - Digital Printing
Who’s AICC?

- Founded in 1974, representing exclusively independent packaging industry – corrugated, folding carton & rigid box
- 300 corporate members, plus 130 supplier members
- International in scope with members in US, Canada, Mexico and overseas
- Education, training, advocacy and networking, public outreach
State of the Industry
What’s Going On?

US Corrugated industry and economic data, January 2013
Unless otherwise noted, data represent change from previous reporting period (month, quarter or year)

- Corrugated shipments: 4.6% (2012-2013)
- Mill operating rates: 97.1%
- Containerboard inventory (weeks of supply): 4.1 weeks (up from 3.6)
- 4Q 2012 GDP Growth (revised): 0.1%
- Purchasing Managers’ Index: 55.2 (up from 53.1)
- Linerboard Exports: 10.5%
- Change in OCC Prices (Midwest, January): $10/ton

Sources: Scoring Boxes, Feb, 2013
Corrugated Market Share 2001-2009

Asia vs. North America, percent of total world corrugated production

Source: International Corrugated Case Association
Declining Share of Total Corrugated Shipments

Sources: RISI, Corrugated Markets End Use Study 2012
Number of Plants U.S., 2001-2011

- Corrugator Plants
- Sheet Plants

Source: Fibre Box Association, 2011 Annual Report

1,547 in 1992
1,244 in 2012
Loss of 25%
US Containerboard Market Share 1984

Top 5: 34%
Others: 66%

Source: Deutsche Bank Securities Inc.
US Containerboard Market Share 2012

- **Rock-Tenn**: 37%
- **Int'l Paper**: 27%
- **Georgia Pacific**: 11%
- **PCA**: 6%
- **All Others**: 20%

**Top 4**: 73%

**Others**: 27%

Source: Deutsche Bank Securities, Inc.
## Mill Closings/Mothballing 2007-2010

4.5 Million Tons Out of Market

<table>
<thead>
<tr>
<th>Period</th>
<th>Company</th>
<th>Grade</th>
<th>Location</th>
<th>Capacity (in tons)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jan-07</td>
<td>Longview Fiber</td>
<td>Corrugated Medium</td>
<td>Longview, WA</td>
<td>82,000</td>
<td>Closure</td>
</tr>
<tr>
<td>Jun-07</td>
<td>Smurfit-Stone</td>
<td>Corrugated Medium</td>
<td>Carthage, IN</td>
<td>52,000</td>
<td>Closure</td>
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<tr>
<td>Jun-07</td>
<td>Smurfit-Stone</td>
<td>Corrugated Medium</td>
<td>Vernon, CA</td>
<td>148,000</td>
<td>Closure</td>
</tr>
<tr>
<td>Jul-07</td>
<td>Banner Fiberboard</td>
<td>Linerboard</td>
<td>Wellsburg, WV</td>
<td>20,000</td>
<td>Closure</td>
</tr>
<tr>
<td>Oct-07</td>
<td>International Paper</td>
<td>Corrugated Medium</td>
<td>Terre Haute, IN</td>
<td>200,000</td>
<td>Shutdown</td>
</tr>
<tr>
<td>Oct-08</td>
<td>Smurfit Stone</td>
<td>Corrugated Medium</td>
<td>Snowflake, AZ</td>
<td>136,000</td>
<td>Shutdown</td>
</tr>
<tr>
<td>Oct-08</td>
<td>International Paper</td>
<td>Containerboard</td>
<td>Albany, OR</td>
<td>250,000</td>
<td>Indef. Idling</td>
</tr>
<tr>
<td>Nov-08</td>
<td>Catalyst</td>
<td>Containerboard</td>
<td>Campbell River, BC</td>
<td>131,000</td>
<td>Shutdown</td>
</tr>
<tr>
<td>Nov-08</td>
<td>International Paper</td>
<td>Linerboard</td>
<td>Valiant, OK</td>
<td>430,000</td>
<td>Shutdown</td>
</tr>
<tr>
<td>4Q 2008</td>
<td>Smurfit Stone</td>
<td>Corrugated Medium</td>
<td>Matane, QC</td>
<td>174,000</td>
<td>Indef. Idling</td>
</tr>
<tr>
<td>4Q 2008</td>
<td>Smurfit Stone</td>
<td>Linerboard</td>
<td>Missoula, MT</td>
<td>171,000</td>
<td>Indef. Idling</td>
</tr>
<tr>
<td>4Q 2008</td>
<td>Smurfit Stone</td>
<td>Corrugated Medium</td>
<td>Jacksonville, FL</td>
<td>170,000</td>
<td>Indef. Idling</td>
</tr>
<tr>
<td>1Q 2009</td>
<td>Georgia Pacific</td>
<td>Corrugated Medium</td>
<td>Cedar Springs, GA</td>
<td>265,000</td>
<td>Indef. Idling</td>
</tr>
<tr>
<td>1Q 2009</td>
<td>Georgia Pacific</td>
<td>Linerboard</td>
<td>Palatka, FL</td>
<td>40,000</td>
<td>Indef. Idling</td>
</tr>
<tr>
<td>3Q 2009</td>
<td>Smurfit Stone</td>
<td>Corrugated Medium</td>
<td>Ontonagon, MI</td>
<td>280,000</td>
<td>Indef. Idling</td>
</tr>
<tr>
<td>Dec-09</td>
<td>Smurfit Stone</td>
<td>Linerboard</td>
<td>Missoula, MT</td>
<td>620,000</td>
<td>Shutdown</td>
</tr>
<tr>
<td>Dec-09</td>
<td>International Paper</td>
<td>Containerboard</td>
<td>Albany, OR</td>
<td>330,000</td>
<td>Shutdown</td>
</tr>
<tr>
<td>Dec-09</td>
<td>International Paper</td>
<td>Containerboard</td>
<td>Pineville, LA</td>
<td>390,000</td>
<td>Shutdown</td>
</tr>
<tr>
<td>1Q 10</td>
<td>West Fraser (Eurocan)</td>
<td>Linerboard</td>
<td>Kitimat, BC</td>
<td>370,000</td>
<td>Closure</td>
</tr>
</tbody>
</table>

Source: Mill Closings 2007-2010, Pulp and Paper Week
## US & Canadian Corrugated Industry Consolidation

<table>
<thead>
<tr>
<th>Company Name</th>
<th>Acquired By</th>
</tr>
</thead>
<tbody>
<tr>
<td>St. Regis Paper</td>
<td>Chesapeake</td>
</tr>
<tr>
<td>Continental Can Company</td>
<td>Bell Packaging Corp.</td>
</tr>
<tr>
<td>Owens-Illinois Container Div.</td>
<td>Weston-Wabash</td>
</tr>
<tr>
<td>Container Corporation of America</td>
<td>Stone Container</td>
</tr>
<tr>
<td>Pineville Kraft</td>
<td>Willamette</td>
</tr>
<tr>
<td>Hoerner-Waldorf</td>
<td>Gaylord Container Corp.</td>
</tr>
<tr>
<td>Crown Zellerbach</td>
<td>St. Laurent Packaging</td>
</tr>
<tr>
<td>Great Northern Nekoosa</td>
<td>MacMillan Bloedel</td>
</tr>
<tr>
<td>Manville Forest Products</td>
<td>Alton Corrugated</td>
</tr>
<tr>
<td>Bathurst Packaging</td>
<td>Box USA</td>
</tr>
<tr>
<td>Westvaco</td>
<td>Mead</td>
</tr>
<tr>
<td>St. Joe Paper</td>
<td>Weyerhaeuser</td>
</tr>
</tbody>
</table>
US Corrugated Market Share 1989

Sources: Courtesy of Mike Harwood, Pratt Industries
US Corrugated Market Share 2011

- IP 30%
- Rock-Tenn 24%
- GP 12%
- Inland 11%
- PCA 7%
- Pratt 4%
- Norampac 2%
- U.S. Corr 2%
- Others 8%

Sources: RISI
## Not just for the big guys
Sample transactions, 2010-2012, independent converters

<table>
<thead>
<tr>
<th>Date</th>
<th>Transaction</th>
<th>Date</th>
<th>Transaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>5/17/2010</td>
<td>SupplyOne buys Specialty Container</td>
<td>7/25/2011</td>
<td>Welch Packaging buys Imperial Packaging</td>
</tr>
<tr>
<td>6/21/2012</td>
<td>Englander buys Stribling, then DzignPak</td>
<td>12/12/2011</td>
<td>Coastal Container buys Best Packaging</td>
</tr>
<tr>
<td>1/3/2011</td>
<td>Romanow buys Allied Industries</td>
<td>1/1/2012</td>
<td>Arbor Investments buys Great Lakes Packaging Corp.</td>
</tr>
<tr>
<td>6/13/2011</td>
<td>Pacific Southwest Container buys Proactive Northern</td>
<td>2/6/2012</td>
<td>Menasha Packaging buys Strive Group</td>
</tr>
<tr>
<td>7/11/2011</td>
<td>Buckeye Corrugated buys Empire State Container and T&amp;T Packaging</td>
<td>8/20/2012</td>
<td>SupplyOne buys Albuquerque Packaging</td>
</tr>
</tbody>
</table>

**Sources:** Courtesy of Board Converting News
Independent Market Share

Percent of Total Shipments, 1996-2011

Integrated
Independent
Opportunities
Declining Share of Total Corrugated Shipments

Sources: RISI, Corrugated Markets End Use Study 2012
Food and Beverage
# End-Use Markets
## Classified by Growth Potential
### Average Annual Growth in Corrugated Shipments (2012-2016)

<table>
<thead>
<tr>
<th>Growth Markets</th>
<th>Growth Rate</th>
<th>Stagnant Markets</th>
<th>Stagnant Rate</th>
<th>Declining Markets</th>
<th>Decline Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Beverage Products</td>
<td>5.7%</td>
<td>Metal, Machinery and Transport Equipment</td>
<td>0.8%</td>
<td>Miscellaneous Manufacturing</td>
<td>-2.0%</td>
</tr>
<tr>
<td>Fresh Fruit and Vegetables</td>
<td>3.5%</td>
<td>Bakery Products</td>
<td>0.7%</td>
<td>Plastics, Rubber and Petro Products</td>
<td>-2.8%</td>
</tr>
<tr>
<td>Dairy Products</td>
<td>3.0%</td>
<td>Frozen and Canned Food</td>
<td>0.6%</td>
<td>Milled Grain and Oilseed</td>
<td>-3.2%</td>
</tr>
<tr>
<td>Chemical Products</td>
<td>2.7%</td>
<td>Furniture and Wood Products</td>
<td>0.2%</td>
<td>Mineral Products</td>
<td>-4.1%</td>
</tr>
<tr>
<td>Other Food Products</td>
<td>2.5%</td>
<td>Services</td>
<td>-0.1%</td>
<td>Electrical Equipment and Computers</td>
<td>-4.8%</td>
</tr>
<tr>
<td>Meat Products</td>
<td>2.3%</td>
<td>Sugar and Confectionary</td>
<td>-0.2%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Retail Trade</td>
<td>1.2%</td>
<td>Textile, Apparel and Leather Products</td>
<td>-0.3%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Paper, Printing and Allied Products</td>
<td>1.1%</td>
<td>Wholesale Trade</td>
<td>-0.4%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Growth Trends in Beverage Products

**Five-Year Average Annual Growth Rates**

<table>
<thead>
<tr>
<th>Period</th>
<th>GDP</th>
<th>Food and Beverage Spending</th>
<th>Beverages Spending</th>
<th>Beverages Production</th>
<th>Beverages Industry GDP</th>
<th>Corrugated Box Shipments</th>
</tr>
</thead>
<tbody>
<tr>
<td>02-06</td>
<td>2.7%</td>
<td>1.8%</td>
<td>3.7%</td>
<td>3.3%</td>
<td>2.5%</td>
<td>3.2%</td>
</tr>
<tr>
<td>07-11e</td>
<td>0.5%</td>
<td>0.7%</td>
<td>0.6%</td>
<td>2.3%</td>
<td>0.7%</td>
<td>5.2%</td>
</tr>
<tr>
<td>12-16f</td>
<td>2.4%</td>
<td>1.6%</td>
<td>3.6%</td>
<td>3.0%</td>
<td>2.4%</td>
<td>5.7%</td>
</tr>
</tbody>
</table>

**Sources:** RISI, Corrugated Markets End Use Study 2012
Sustainability
Sustainability

- Environmental
- Social
- Economic
Retail Ready Packaging
What is Retail Ready Packaging?

RRP is a system of packaging and merchandising that allows products to move through the retail supply chain and stores most efficiently.

Source: Drew Gilchrist, Gilchrist Packaging
Key Drivers

- Labor – stores are regularly short of planned employees (> 6%)
- Employee turnover is high in the retail sector
- Overtime hours due to labor-intensive activities hurt margins
- Out of stock merchandise results in lost sales and unhappy customers
- Less double-handling of product

Source: Drew Gilchrist, Gilchrist Packaging
**Key Drivers**

- Consumers demand convenience, choice, and availability
- RRP is a solution to improve on-shelf availability of products
- Successful RRP solutions increase brand visibility as well as product identification and shop-ability
- Successful RRP adds structure excitement, thus enhancing the customer experience

*Source: Drew Gilchrist, Gilchrist Packaging*
The Four Categories of RRP

Shelf Ready (SRP)

Display Ready (DRP)

Replenishment Ready

Infrastructure Ready

Source: Drew Gilchrist, Gilchrist Packaging
Shelf Ready Packaging (SRP) allows a case containing more than one consumer selling unit to be placed on the store shelf in one motion.

Eliminates the need to remove product one at a time from the typical RSC

Studies have shown a 48% improvement in shelf stocking time with SRP’s

Source: Drew Gilchrist, Gilchrist Packaging
Shelf Ready Packaging

Source: Drew Gilchrist, Gilchrist Packaging
Shelf Ready Packaging

Source: Drew Gilchrist, Gilchrist Packaging
Easy To Identify - On The Shelf
Packaging Style Guides

**RRP Guidelines for North America**

*Walmart*

**Retail Ready Packaging 2011**

**Packaging Toolkit**

**Introduction**

These guidelines are designed to provide all Walmart suppliers with general information to increase the effectiveness of their Retail Ready Packaging solutions and to outline required Walmart requirements. For more detailed information, refer to the following:

- Functional Guidelines
- RRP Assessment Tool
- Go to [http://www.walmart.com](http://www.walmart.com)

**Further Information**

For all questions related to RRP together with:

- Functional Guidelines
- RRP Assessment Tool
- Go to [http://www.walmart.com](http://www.walmart.com)

**Source:** Drew Gilchrist, Gilchrist Packaging

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**Shelf Ready Packaging**

*The Kroger Co.*

**Shelf Ready Guidelines**

January, 2010 Version 1.0

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**Loblaw Companies Limited**

**Retail Ready Packaging (RRP) Toolkit**

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**H-E-B**

**Retail Ready Packaging (RRP) Guidelines**

Version 2.0
Style Guides Not Available?

Download a copy of the Retail Ready Packaging Functional Guidelines from http://www.ecr-all.org

Shelf Ready Packaging (Retail Ready Packaging) Addressing the challenge: a comprehensive guide for a collaborative approach

ECR Europe 2006.11.07

Publication Date: 2006  
Publication Language: English  
Publication Country/Region: ECR Europe

Publication Type: Case study, Bluebook, Presentation

Companies involved: Carrefour, Kraft, Albert Heijn, ECR Norway, Reckitt Benckiser, Accenture, Nestlé, ICA, SCA Packaging, Casino

Author: ECR Europe, Accenture

by ECR Europe & Accenture (2006)

Click to download:
Full Report (pdf; 1.4 MB)  
Executive Summary (pdf; 107KB)  
Presentation (pdf; 646 KB)  
Case studies  
SRP solution assessment tool  
SRP business case assessment tool  
SRP store audit checklist

Shelf Ready Packaging appears to be one potential solution to address store operations efficiency, shelf replenishment and product availability, visibility and access. There is currently a multiplication of local and proprietary SRP initiatives in Europe. There is a risk of proliferation of contradictory guidelines, which would endanger the initial vision of bringing more value to the consumer.

This ECR Europe blue book provides guidance on how to look at the introduction of Shelf Ready Packaging (SRP) collaboratively. It is the culmination of 11 months of work by the ECR Europe Shelf Ready Packaging project team, where manufacturers, ECR national representatives and packaging suppliers worked jointly with retailers, ably supported by Accenture.
Digital Printing
Océ Current Solutions for Packaging

Digital short run

- **Océ Arizona series UV flatbed printer**
  - Enables printing to rigid substrate including corrugate up to 2” thick
  - 4’x8’ or 8’x10’ image area
  - Speeds up to 22 4’x8’ boards/hour at near photographic quality

- **Océ ProCut digital cutter**
  - Performs cutting and creasing of printed packaging
  - Integrated print/cut workflow software

Sources: Courtesy of Océ
Océ (Canon)
InfiniStream Folding Carton Press

Sources: Courtesy of Océ
Sun Automation

Customer sends a PDF, Adobe, JPEG etc...

Pre-press Package Creation and Layout

Stored ICC Color Profiles

Color Toolkit Software

Ripped Job Data File

System Controller

CorrStream

Sources: Courtesy of Sun Automation
SUN Automation Digital Printing

- Full Width Printing on a 60” x 110” sheet
- Production speeds of 3,000 sheets/hr.
- 70 MSF/hr., 16 hours per day, 6 days per week
- High Density Pigment Inks and Digital Coatings
- 4 process colors (CMYK) cover 85% of Pantone range
- Color management and spot colors possible
- No plates, no set up time, no maintenance
“Digital packaging will not take over from one day to another, but will play a key role in the next five to ten years.”

-- Jean-Pascal Bobst, as quoted at PPC’s 2012 Fall Meeting, Las Vegas
Summary

- The digital packaging industry will have a compound annual growth rate of 15.7% between 2009 and 2014.

- Demand for innovative ways to differentiate products.

- Short runs for regional, local and low-volume products.

- Packaging is a growing market and everybody wants in.

Sources: Frank Romano, RIT
Takeaways

- Corrugated shipments down
- Consolidation continues – integrated *and* independent
- Independents must reinvent themselves
- Opportunities in market trends
  - Sustainability
  - RRP
  - Digital print
Resources

- AICC:  [www.aiccbox.org](http://www.aiccbox.org), or syoung@aiccbox.org
- Drew Gilchrist:  [drew.gilchrist@att.net](mailto:drew.gilchrist@att.net)
- ICCA:  [www.iccanet.org](http://www.iccanet.org)
- Sun Automation:  [www.sunautomation.com](http://www.sunautomation.com)
- Canon (Oce):  [www.canon.com](http://www.canon.com)
- Bobst:  [www.bobstgroup.com](http://www.bobstgroup.com)
- RRP Functional Guidelines  [www.ecr-all.org](http://www.ecr-all.org)