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*

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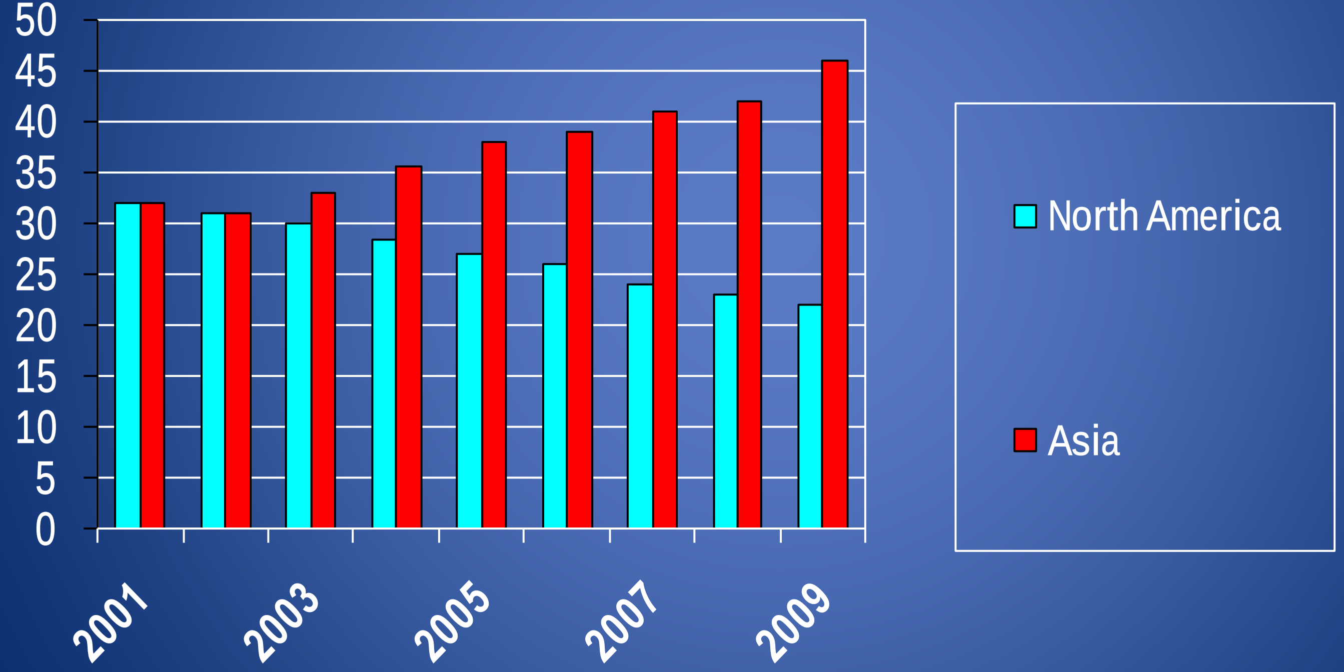
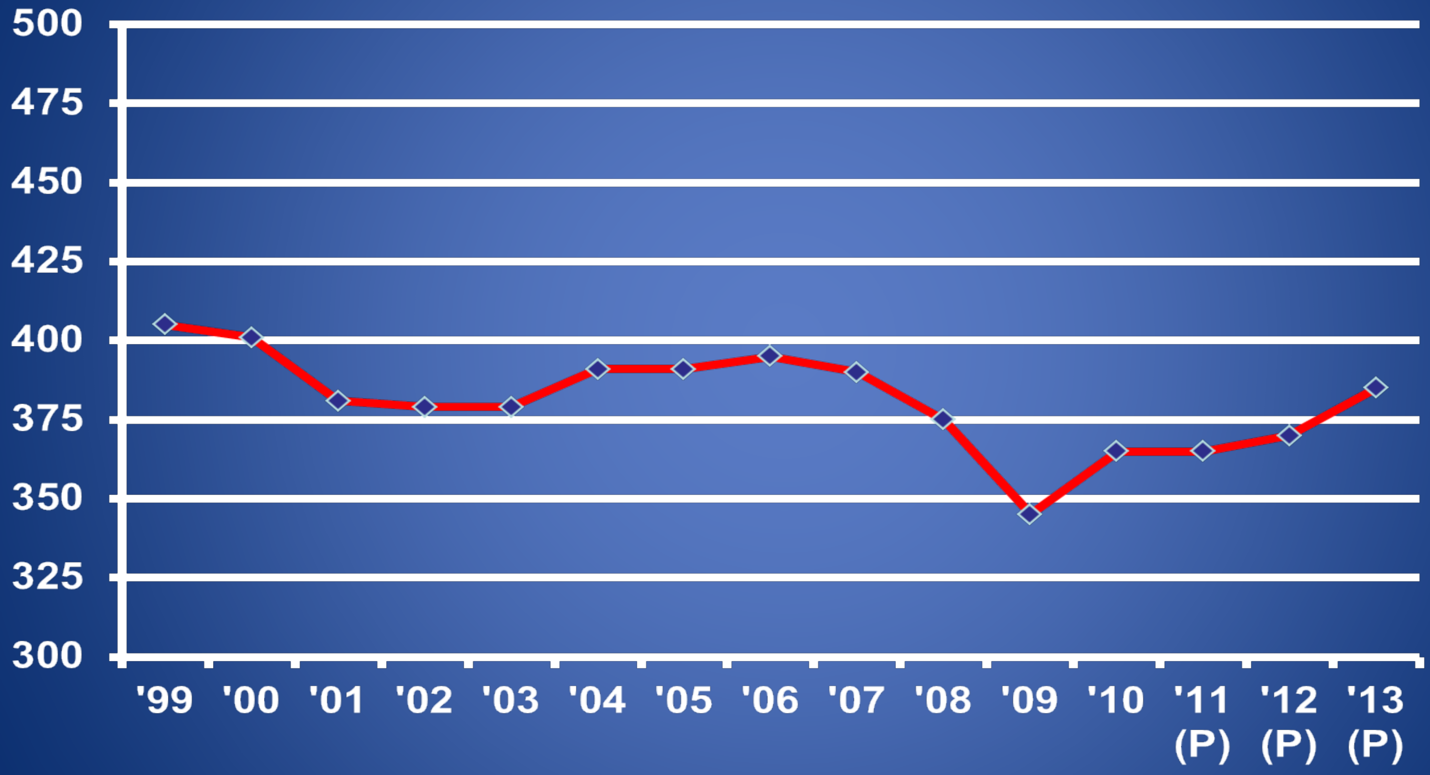
Corrugated Market Share 2001-2009

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



Source: International Corrugated Case Association

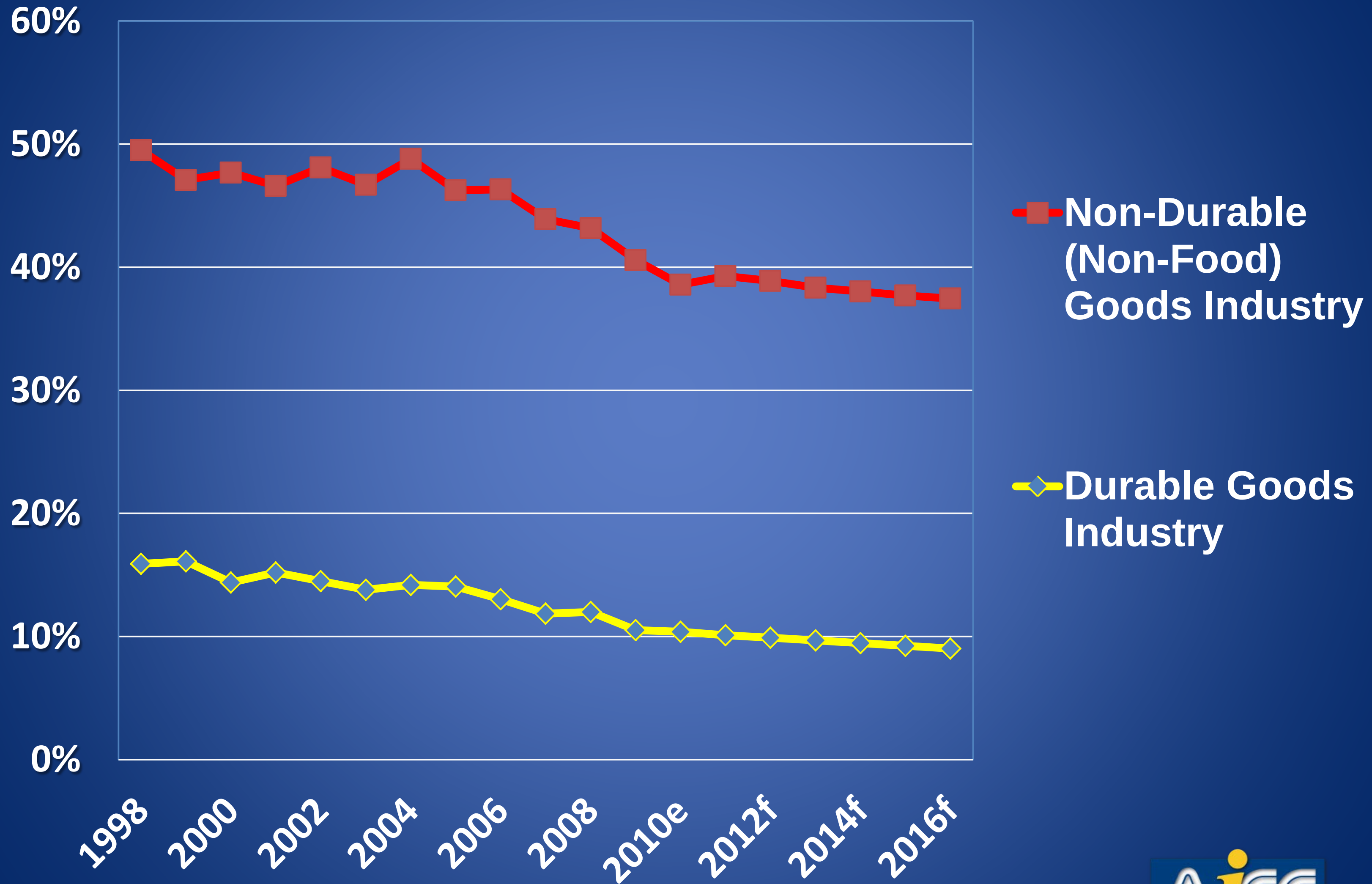
Shipments Trend



Billions of Square Feet

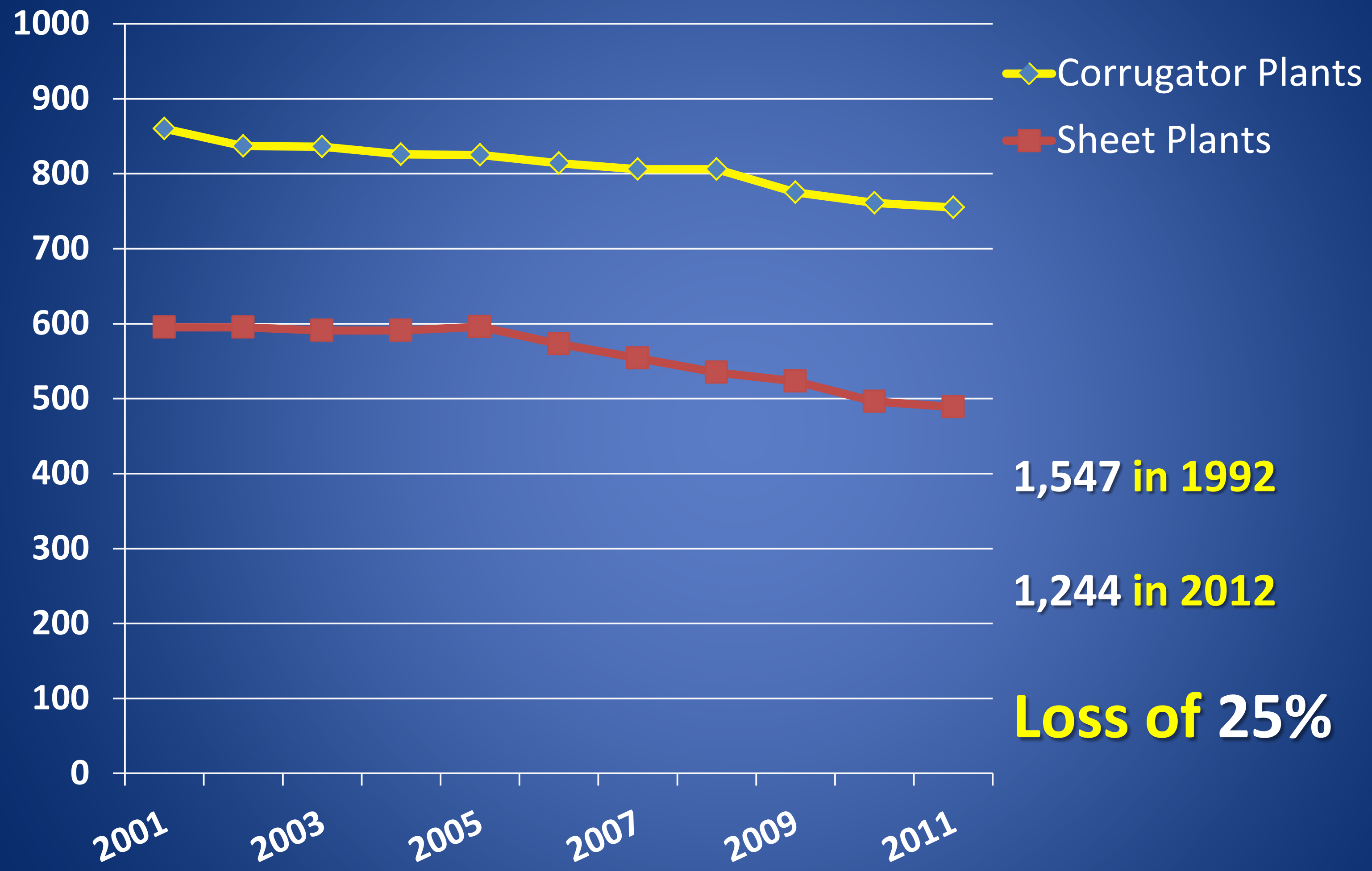
Source: Fibre Box Association, 2011 Annual Report

Declining Share of Total Corrugated Shipments



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

Number of Plants U.S., 2001-2011



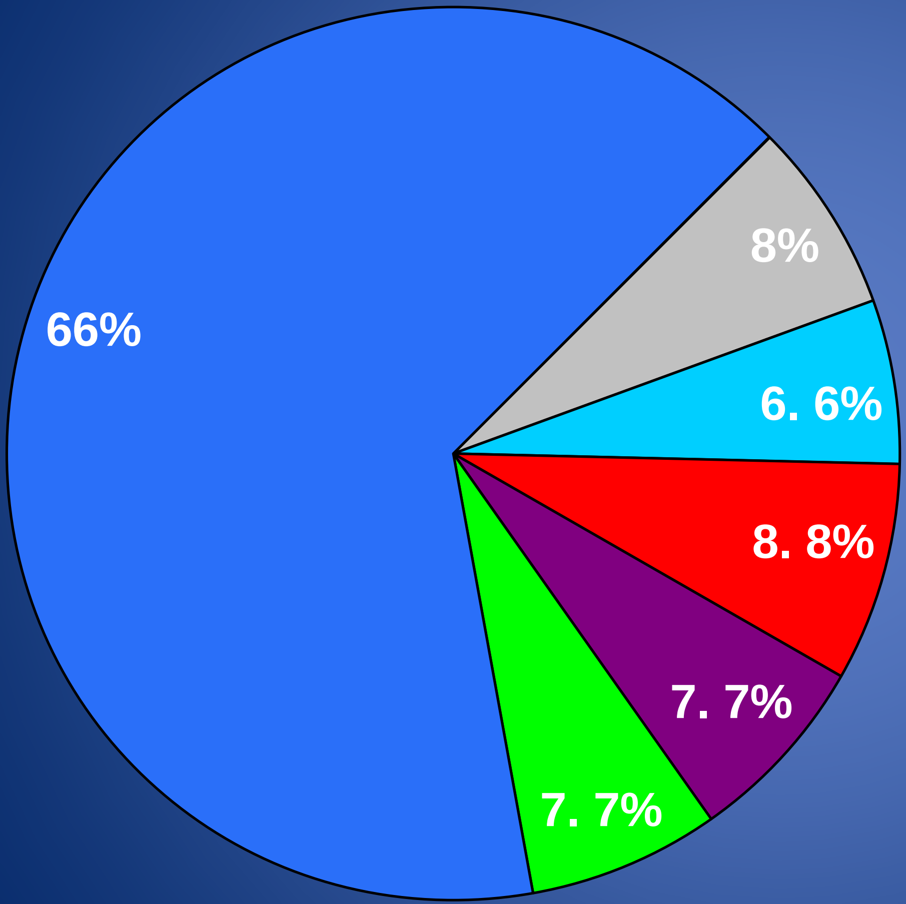
1,547 in 1992

1,244 in 2012

Loss of 25%

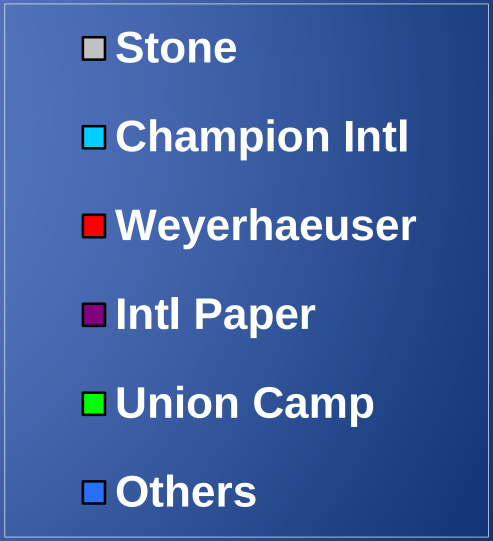
Source: Fibre Box Association, 2011 Annual Report

US Containerboard Market Share 1984



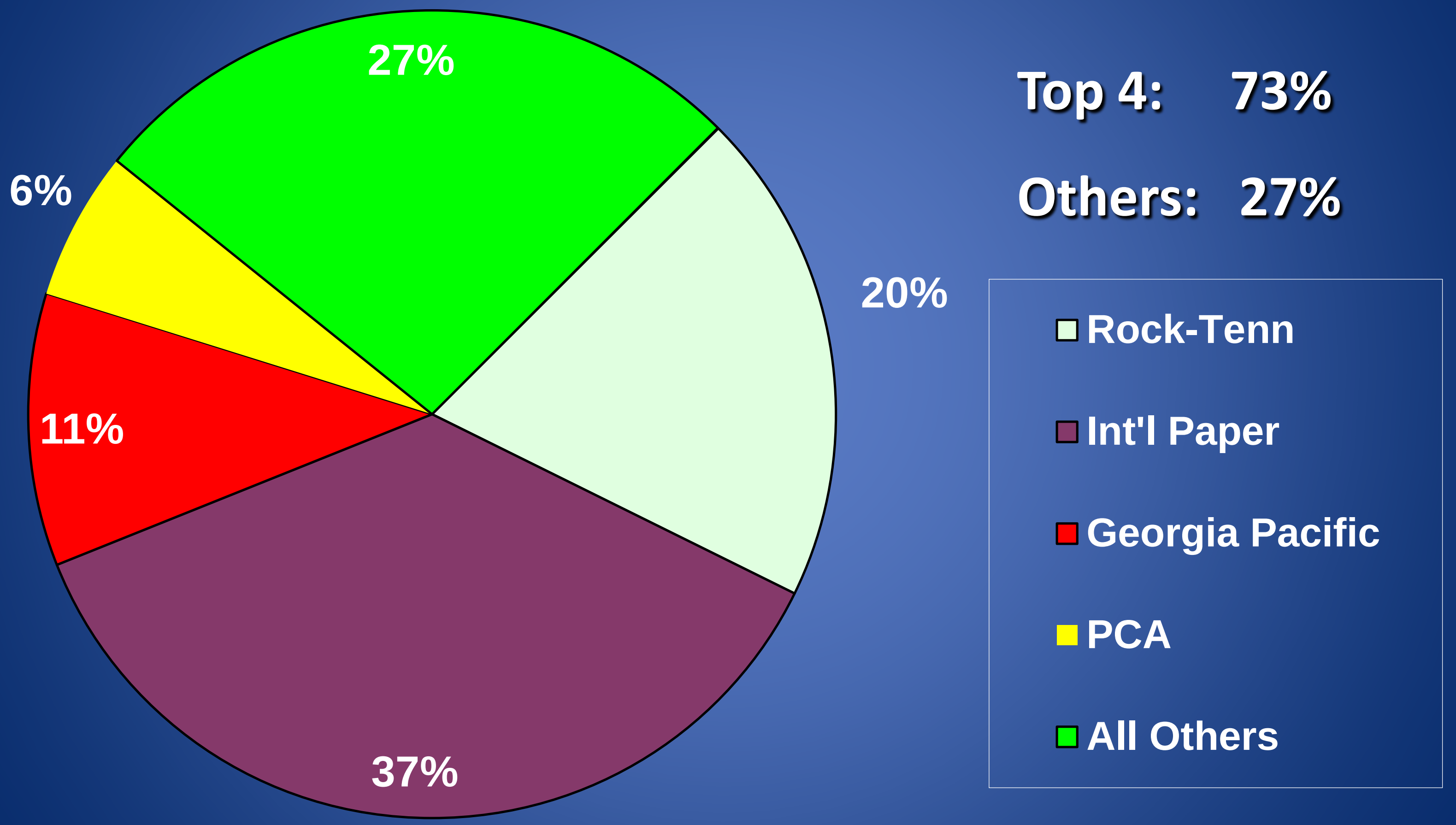
Top 5: 34%

Others: 66%



Source: Deutsche Bank Securities Inc.

US Containerboard Market Share 2012



Top 4: 73%

Others: 27%

Source: Deutsche Bank Securities, Inc.

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Mill Closings/Mothballing 2007-2010

4.5 Million Tons Out of Market

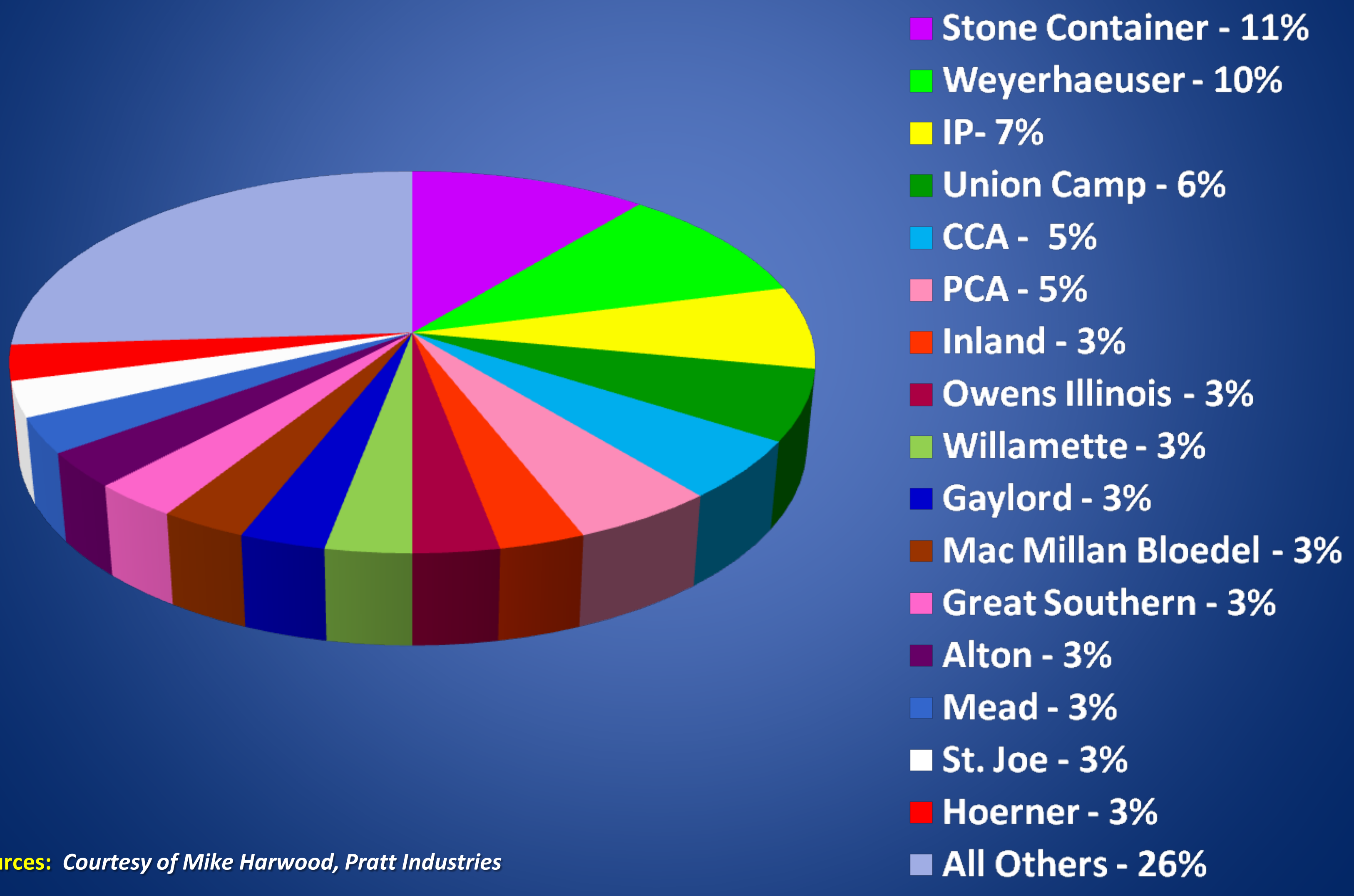
Period	Company	Grade	Location	Capacity (in tons)	Description
Jan-07	Longview Fiber	Corrugated Medium	Longview, WA	82,000	Closure
Jun-07	Smurfit-Stone	Corrugated Medium	Carthage, IN	52,000	Closure
Jun-07	Smurfit-Stone	Corrugated Medium	Vernon, CA	148,000	Closure
Jul-07	Banner Fiberboard	Linerboard	Wellsburg, WV	20,000	Closure
Oct-07	International Paper	Corrugated Medium	Terre Haute, IN	200,000	Shutdown
Oct-08	Smurfit Stone	Corrugated Medium	Snowflake, AZ	135,000	Shutdown
Oct-08	International Paper	Containerboard	Albany, OR	250,000	Indef. Idling
Nov-08	Catalyst	Containerboard	Campbell River, BC	131,000	Shutdown
Nov-08	International Paper	Linerboard	Valiant, OK	430,000	Shutdown
4Q 2008	Smurfit Stone	Corrugated Medium	Matane, QC	174,000	Indef. Idling
4Q 2008	Smurfit Stone	Linerboard	Missoula, MT	171,000	Indef. Idling
4Q 2008	Smurfit Stone	Corrugated Medium	Jacksonville, FL	170,000	Indef. Idling
1Q 2009	Georgia Pacific	Corrugated Medium	Cedar Springs, GA	265,000	Indef. Idling
1Q 2009	Georgia Pacific	Linerboard	Palatka, FL	40,000	Indef. Idling
3Q 2009	Smurfit Stone	Corrugated Medium	Ontonagon, MI	280,000	Indef. Idling
Dec-09	Smurfit Stone	Linerboard	Missoula, MT	620,000	Shutdown
Dec-09	International Paper	Containerboard	Albany, OR	330,000	Shutdown
Dec-09	International Paper	Containerboard	Pineville, LA	390,000	Shutdown
1Q10	West Fraser (Eurocan)	Linerboard	Kitimat, BC	370,000	Closure

Source: Mill Closings 2007-2010, Pulp and Paper Week

US & Canadian Corrugated Industry Consolidation

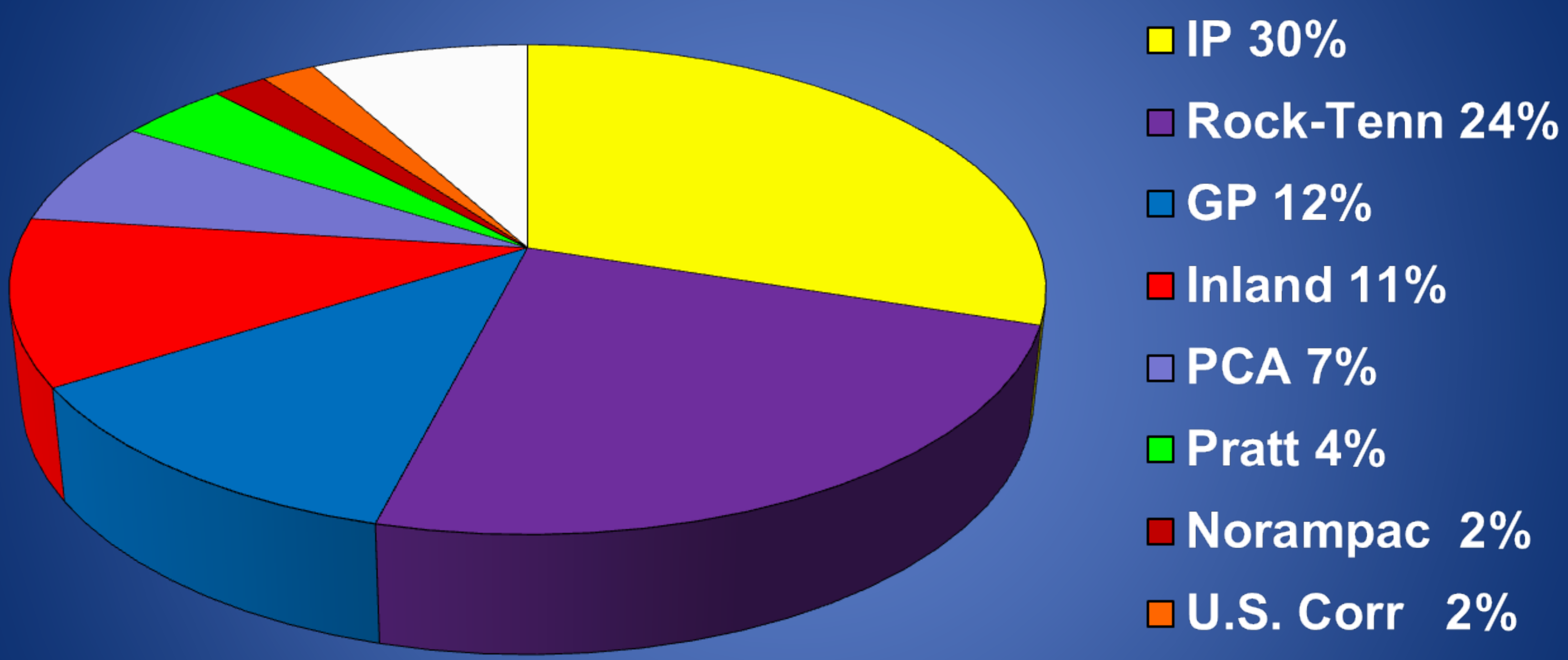
St. Regis Paper	Chesapeake
Continental Can Company	Bell Packaging Corp.
Owens-Illinois Container Div.	Weston-Wabash
Container Corporation of America	Stone Container
Pineville Kraft	Willamette
Hoerner-Waldorf	Gaylord Container Corp.
Crown Zellerbach	St. Laurent Packaging
Great Northern Nekoosa	MacMillan Bloedel
Manville Forest Products	Alton Corrugated
Bathurst Packaging	Box USA
Westvaco	Mead
St. Joe Paper	Weyerhaeuser

US Corrugated Market Share 1989



Sources: *Courtesy of Mike Harwood, Pratt Industries*

US Corrugated Market Share 2011



Sources: *RISI*

Not just for the big guys

Sample transactions, 2010-2012, independent converters

Date	Transaction	Date	Transaction
5/17/2010	SupplyOne buys Specialty Container	7/25/2011	Welch Packaging buys Imperial Packaging
5/31/2010	Mannkraft Corp. buys Security Packaging	8/29/2011	Lawrence Paper buys Liberty Carton
6/21/2012	Englander buys Stribling, then DzignPak	12/12/2011	Coastal Container buys Best Packaging
1/3/2011	Romanow buys Allied Industries	1/1/2012	Arbor Investments buys Great Lakes Packaging Corp.
6/13/2011	Pacific Southwest Container buys Proactive Northern	2/6/2012	Menasha Packaging buys Strive Group
7/11/2011	Buckeye Corrugated buys Empire State Container and T&T Packaging	8/20/2012	SupplyOne buys Albuquerque Packaging

Sources: *Courtesy of Board Converting News*

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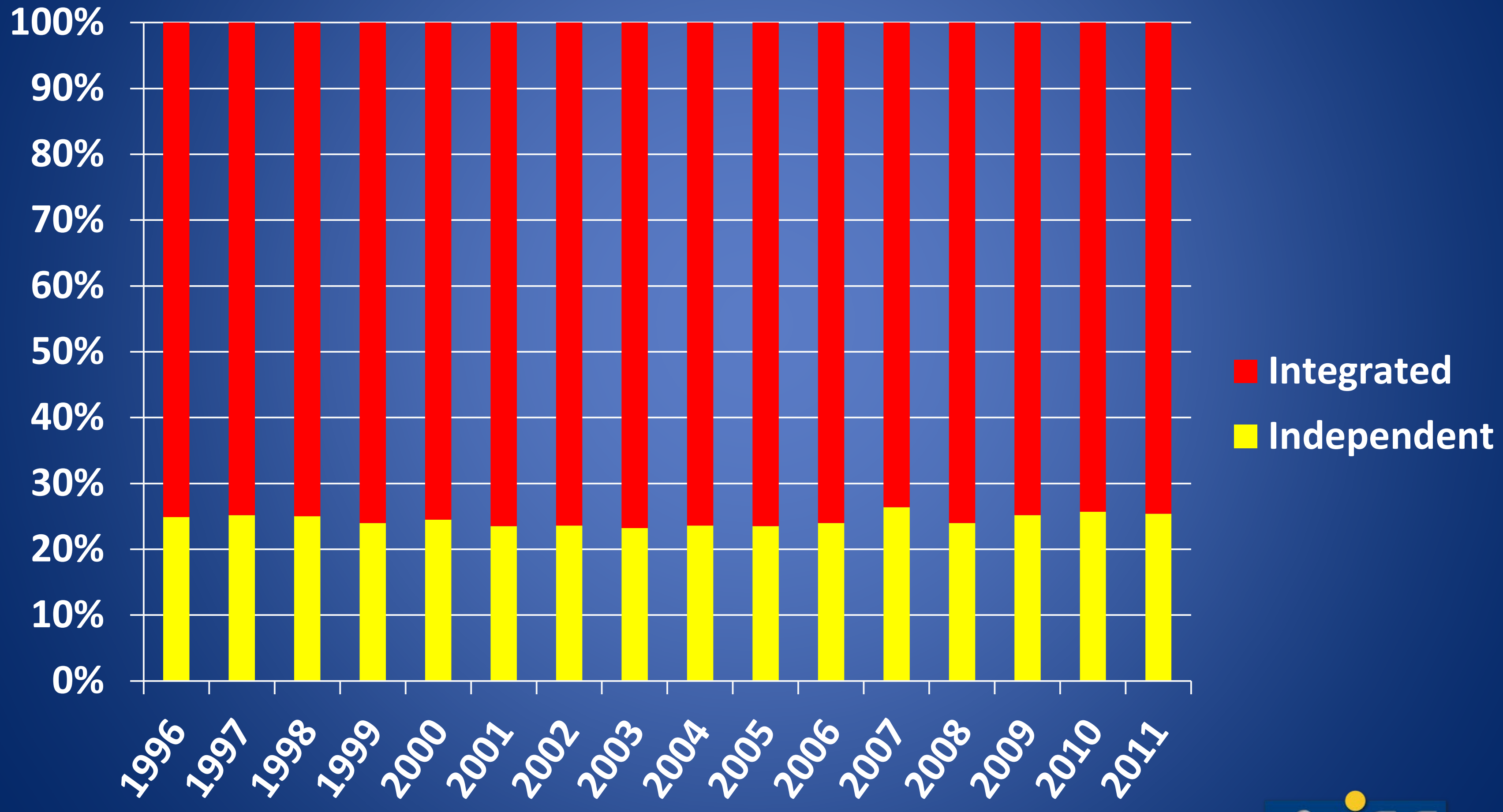
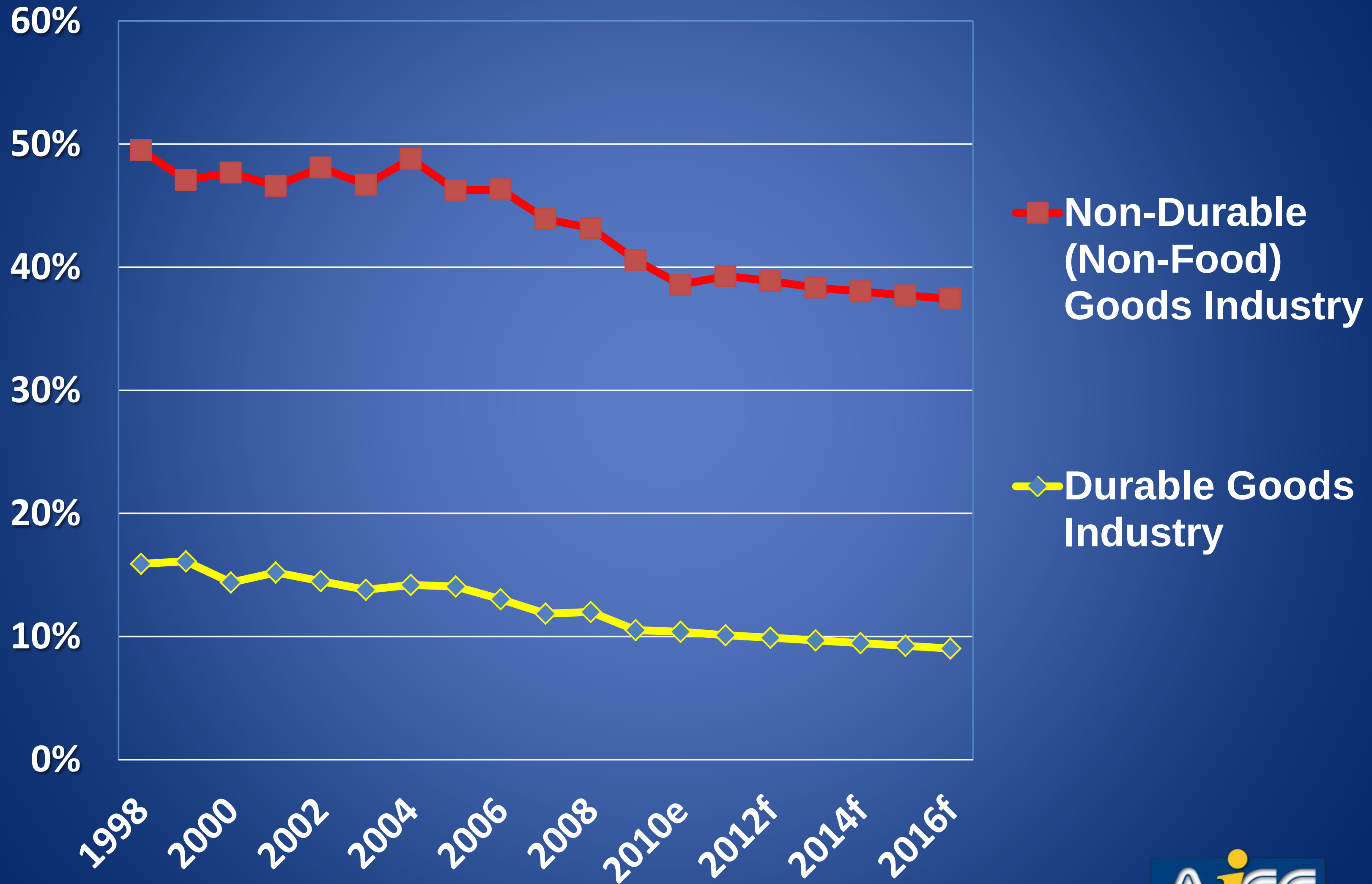
Independent Market Share

Percent of Total Shipments, 1996-2011



Opportunities

Declining Share of Total Corrugated Shipments



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

Food and Beverage

O'HARA'S
GUINNESS
WOODPECKER CIDER
Beer from Great Britain
Hoegaarden
Leffe
Grolsch
Heineken
Heineken LIGHT
AMSTEL LIGHT
Beer from Holland
PAULANER
SPATEN
BECKS
Beer from Germany
PERONI
Asahi
Beer from Italy
Corona
Corona Extra
Light
STELLA ARTOIS
Bass
AMSTEL LIGHT
Hoegaarden
Heineken
Heineken LIGHT
PARTY PACK

End-Use Markets Classified by Growth Potential

Average Annual Growth in Corrugated Shipments (2012-2016)

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

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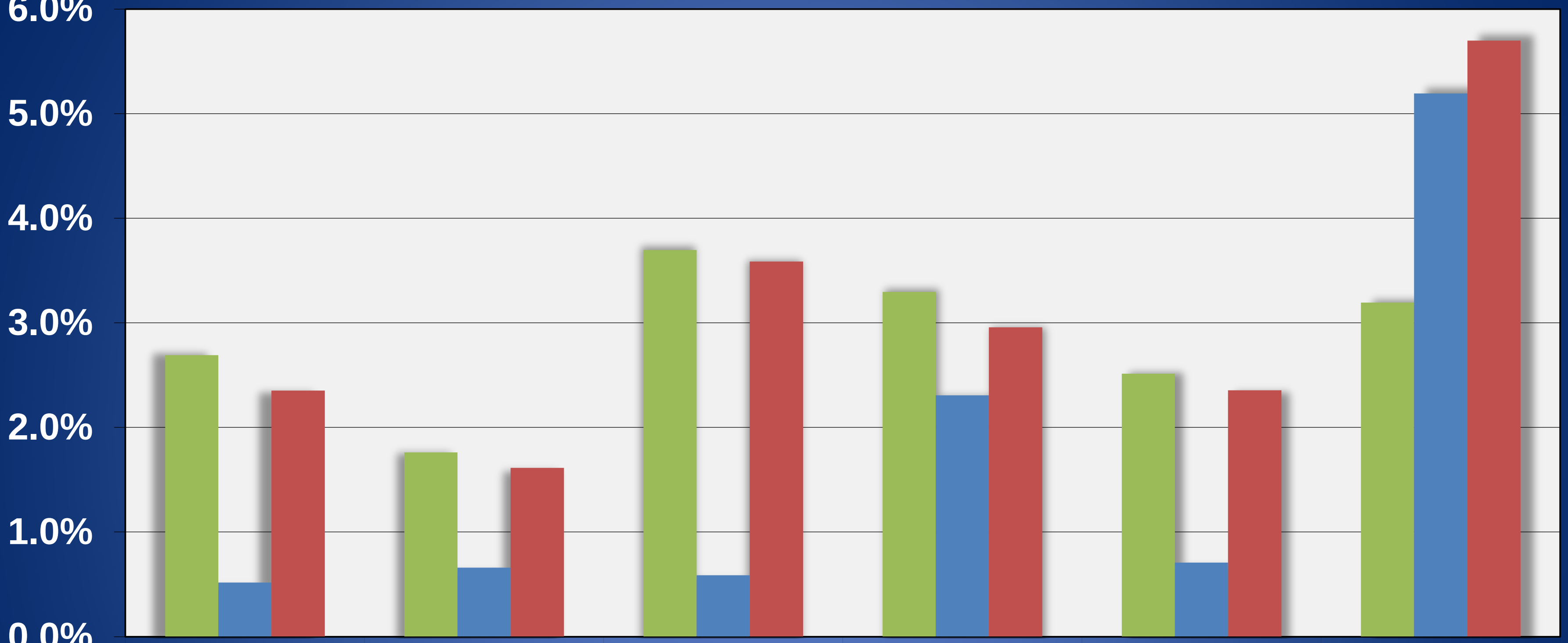
Growth Trends in Beverage Products

Five- Year Average Annual Growth Rates



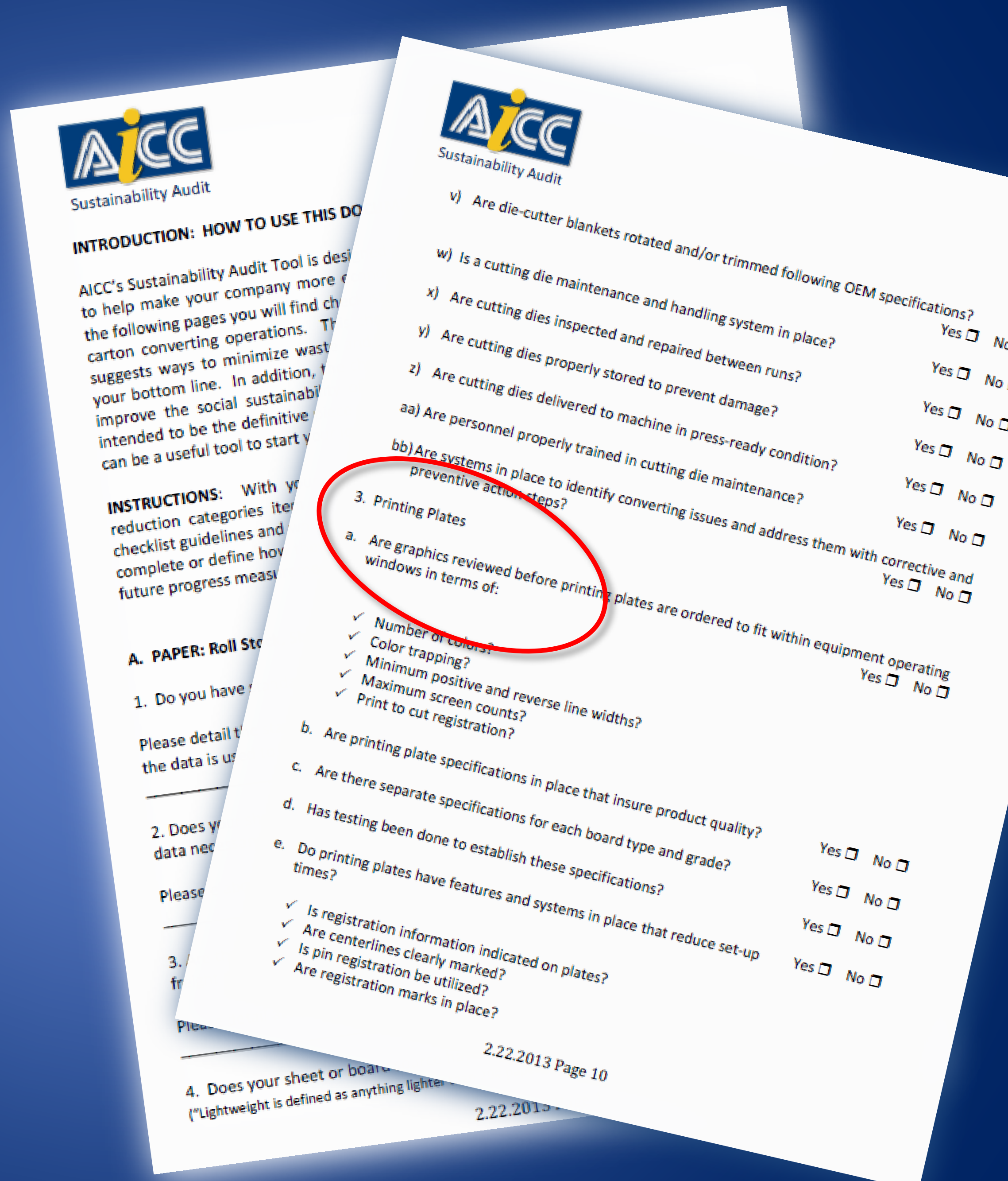
	GDP	Food and Beverage Spending	Beverages Spending	Beverages Production	Beverages Industry GDP	Corrugated Box Shipments
02-06	2.7%	1.8%	3.7%	3.3%	2.5%	3.2%
07-11e	0.5%	0.7%	0.6%	2.3%	0.7%	5.2%
12-16f	2.4%	1.6%	3.6%	3.0%	2.4%	5.7%

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

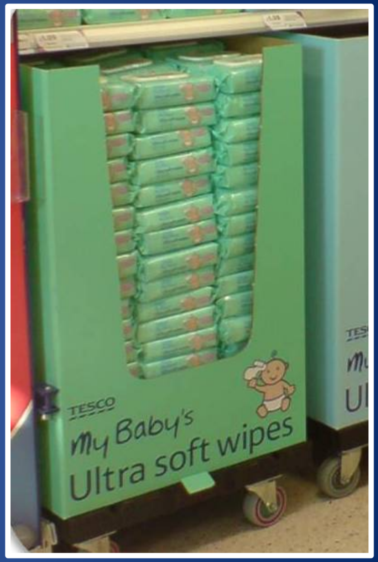
Source: *Drew Gilchrist, Gilchrist Packaging*

The Four Categories of RRP

Shelf Ready (SRP)

Display Ready (DRP)

Replenishment Ready



Infrastructure Ready

Source: *Drew Gilchrist, Gilchrist Packaging*

Shelf Ready Packaging

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

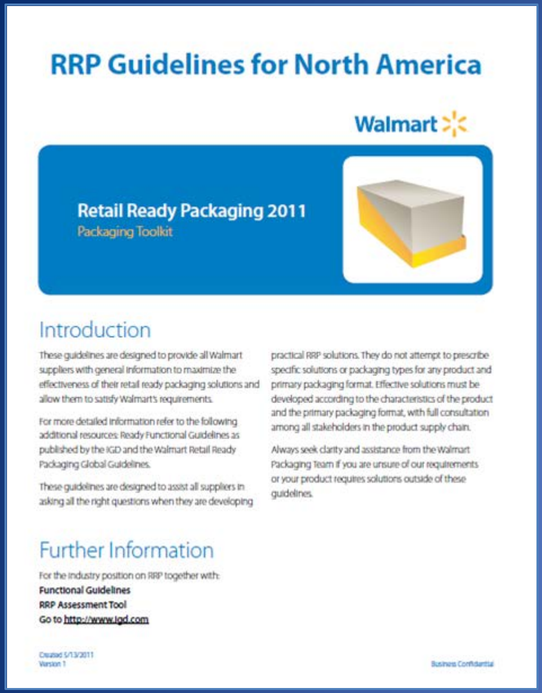
Source: *Drew Gilchrist, Gilchrist Packaging*

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 maximize the effectiveness of their retail ready packaging solutions and allow them to satisfy Walmart's requirements.

For more detailed information refer to the following additional resources: Ready Functional Guidelines as published by the IGD and the Walmart Retail Ready Packaging Global Guidelines.

These guidelines are designed to assist all suppliers in asking all the right questions when they are developing practical RRP solutions. They do not attempt to prescribe specific solutions or packaging types for any product and primary packaging format. Effective solutions must be developed according to the characteristics of the product and the primary packaging format, with full consultation among all stakeholders in the product supply chain.

Always seek clarity and assistance from the Walmart Packaging Team if you are unsure of our requirements or your product requires solutions outside of these guidelines.

Further Information

For the industry position on RRP together with:
Functional Guidelines
RRP Assessment Tool
Go to http://www.igd.com

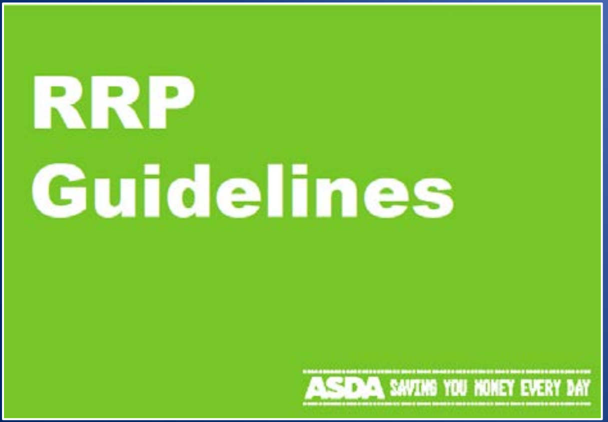
Created 5/13/2011
Version 1

Business Confidential

Shelf Ready Packaging

The Kroger Co.
Shelf Ready Guidelines
January, 2010 Version 1.0

1 The Kroger Co. 2010 Confidential



RRP Guidelines

ASDA SAVING YOU MONEY EVERY DAY

Loblaw
COMPANIES LIMITED

Retail Ready Packaging (RRP) Toolkit

Edition 1
September 2009

H-E-B

Retail Ready Packaging (RRP) Guidelines

Version 2.0

Source: ***Drew Gilchrist, Gilchrist Packaging***

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:	Publication Language:	Publication Country/Region:	Publication Type:	Companies involved:	Author:
2006	English	ECR Europe	Case study, Bluebook, Presentation	Carrefour, Kraft, Albert Heijn, ECR Norway, Reckitt Benckiser, Accenture, Nestlé, ICA, SCA Packaging, Casino	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, visibilty 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.

[CUT]

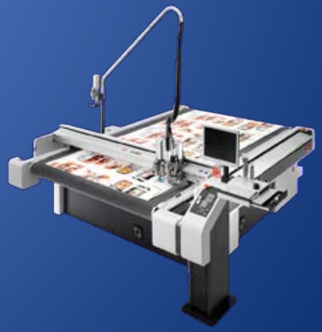
Digital Printing

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

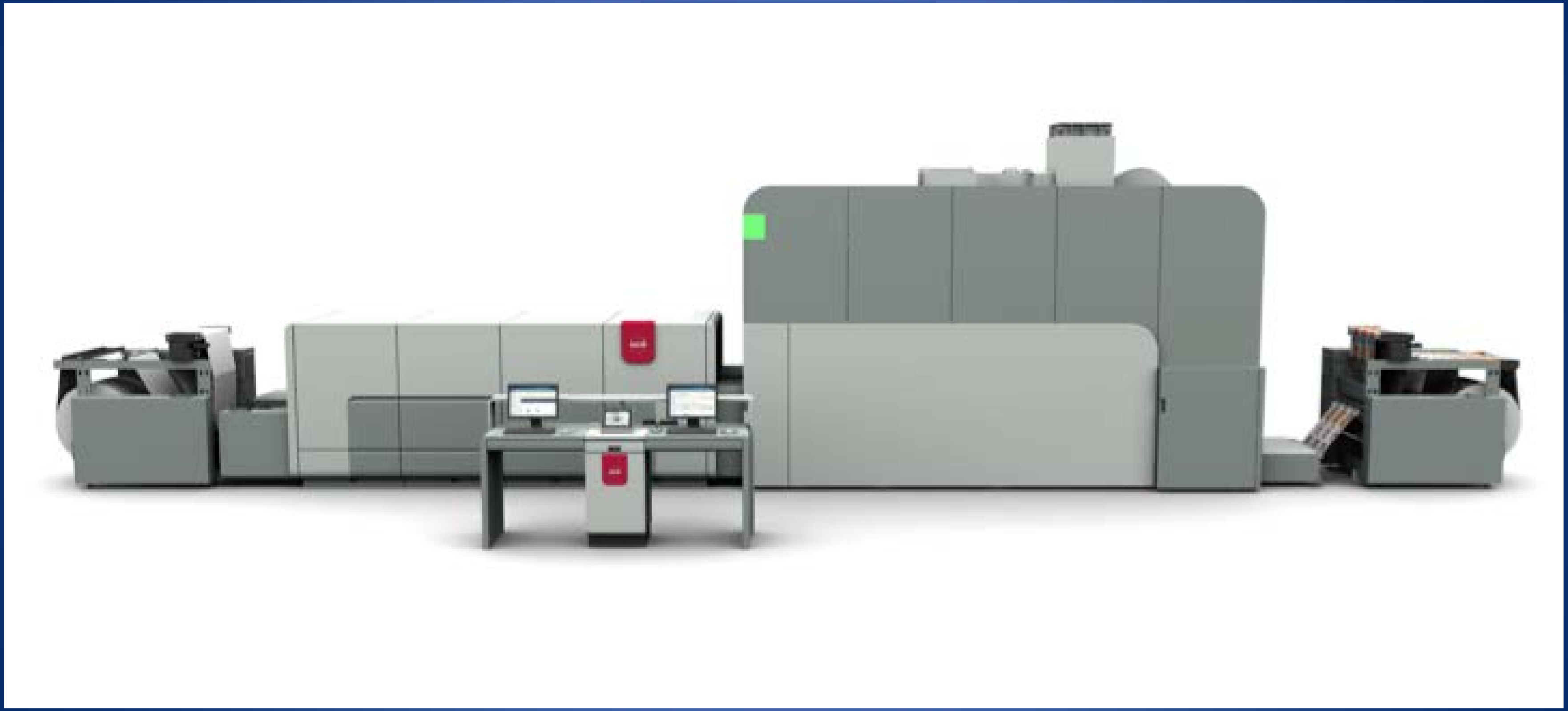
- Océ ProCut digital cutter
  - Performs cutting and creasing of printed packaging
  - Integrated print/cut workflow software



Sources: *Courtesy of Océ*

Océ (Canon)

InfiniStream Folding Carton Press

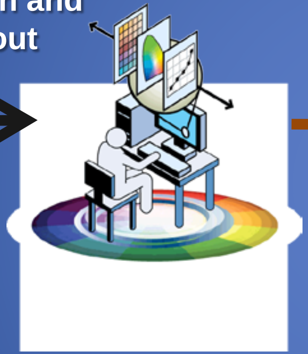


Sources: *Courtesy of Océ*

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

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

CORRSTREAM

First Printed Display

Taken 011212

AICC

Bobst

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