

*An innovative, case-specific study  
with an expanded focus on economic  
and non-economic drivers*

# **THE PROSPECTS FOR ASEPTIC PROCESSING OF BEVERAGES IN PLASTIC IN THE U.S.**

## **A Comprehensive Economic Analysis of Processes Offering**

- Detailed cost models
- Sound payback analysis
- An evaluation of multiple conversion scenarios
- The effect of new innovations and developments

Significant developments in current processing technologies for PET packaging have continued to alter the economics of processing high- and low-acid beverages in the United States. Could new market drivers and manufacturing systems finally make aseptic processing a more cost-effective choice in beverage packaging?

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**Probing  
Economic  
Analysis That  
Answers the  
Question: Is  
The Time Right  
For Aseptic  
Processing of  
Beverages to  
Replace  
Hot-Fill,  
Extended Shelf  
Life, and Other  
Approaches?**

## **Highlights That Distinguish This Multi-Client Study:**

- Economic analysis of five processing/filling scenarios vs. alternative aseptic scenarios
- The incorporation of bottle self-manufacturing and the effect of that trend
- A cogent payback analysis for each conversion scenario and seven secondary scenarios
- An in-depth discussion of five non-economic trends and factors
- Recent advances in hot-fill packaging and technologies
- Innovations in chemical sterilants for aseptic processing
- Development of non-chemical sterilants
- Relative sustainability of processing choices
- The impact of Nestle's new centralized, low-acid aseptic operation

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# Could The Growth Of Aseptic Packaging Be A Disruptive Influence For PET Beverage Containers?

The evolution to aseptic packaging for drinks in the United States has been forecast for much of this decade by leading experts but has yet to fulfill its promise. But with brand owners now self-manufacturing more bottles and technology continuing to expand, is the timing right for a move from hot-fill and heat-set bottles to aseptic applications?

This study examines the economic case behind hot-fill, ESL and aseptic processes and provides an understanding of the most viable approaches for primary drink markets (isotonics, juice and juice drinks, ready-to-drink teas and dairy-based beverages).

## An Illuminating Study ... A Comprehensive Argument

- A detailed analysis uncovering major opportunities and challenges with hot-fill, ESL, and aseptic processing of beverages
- A well-organized analysis of both bottle manufacturing costs and filling line economics
- A complete analysis of major conversion scenarios and where it makes sense to use aseptic, hot-fill, or ESL processes
- A well-examined payback analysis for each scenario that showcases profitability and capital investment for each process
- An evaluation of the differences between purchased and self-manufactured bottles
- A look at key non-economic factors such as the evolution of hot fill alternatives, aseptic sterilization systems, and the impact of sustainability.

## About the Authors

### Gordon J. Bockner



Gordon J. Bockner is the founder and President of Business Development Associates, Inc., (BDA) in Bethesda Maryland. Business Development Associates is a

packaging consultancy which, since its inception in 1981, has monitored market and technology developments in PET packaging. The company has concentrated particularly in identifying market trends and patterns which are likely to result from specific technology developments in PET materials, packaging and manufacturing processes. In addition BDA has assisted domestic and overseas clients to develop and implement licensing programs based on proprietary technology in PET packaging.

### Robert W. Miller

Robert W. Miller was a partner in Business Development Associates from 1994 to 2005 and currently has a part-time relationship with the company. Prior to joining BDA in 1994, Mr. Miller held positions in various packaging and container companies. He worked in product and marketing development for Hercules Inc., where he led the introduction of a new class of co-extruded, multilayer, thermoformed, high-barrier containers. Subsequently, he was Director of Marketing and Sales for DRG Plastics, Inc., where he was a key participant in the full-scale commercialization of the high-barrier products developed at Hercules

### Robert Tremblay



Robert Tremblay's professional career in the plastic packaging industry spans more than 30 years. He is currently President of Plastex Solutions, LLC, a consultancy

serving clients which include producers and purchasers of plastic resins, molding machinery, and plastic packaging. Previously, Mr. Tremblay was President of Western Container Corporation, the primary producer of PET containers for the Coca-Cola bottling system in the western United States and Canada. Prior to leading Western Container, he was Vice President of Quality Assurance and Manufacturing Operations at Constar International, a leading North American converter of PET bottles.

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SAMPLE TABLE			
Purchased Bottle Pricing, Dollars Per Thousand Bottles			
Bottle Type	Price Range	Freight	Delivered Bottle Price Range
Cold-fill	\$68.00 to \$70.00	\$5.08	\$73.08 to \$75.08
Hot-fill	\$85.00 to \$110.00	\$6.60	\$91.60 to \$116.60



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